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May 13, 2006, 09:34:18 ; Search time 189.5 Seconds (without alignments) 4953.591 Million cell updates/sec
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GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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Command line parameters:
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-DB=UniProt -QFWT=fastan -SUFFIX=tup -MINMATCH=0.1 -LOOFCL=0 -LOOFEXT=0
-UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi -LIST=45
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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ALIGNMENTS

	Josep. 2001 (Rel. 40, Created) 16-OCT-2001 (Rel. 40, Last sequence update) 13-SEP-2005 (Rel. 48, Last annotation update) Probable outer membrane protein pmpG precursor (Polymorphic membrane	OrderedLocusNames=CT871; trachomatis. Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydia. D=813;	11) STRAIN=D/UW-3/Cx; STRAIN=D/UW-3/Cx; MEDLINE=99000809; PubMed=9784136; DOI=10.1126/Ecience.282.5389.754; Stephens R.S., Kalman S., Lammel C.J., Fan J., Marathe R., Aravind L.,	MICCREII W.F., Ulinger D., latubov A.D., maccoll M.	This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the Buropean Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not removed.	·
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      GTCCTGAAATTACAGTTAGGGACTAAGCCCCCAGCTAATGCCCCCATCAGATTTGACTCTA
                                                                 GGGAATGAGATGCCTAAGCTATGGCTATCAAGGAAGCTGGAAGCTTGCGTGGGATCCTAAT
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This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
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InterPro; IPR00515; Autotransporter.
InterPro; IPR001427; ChlambMP M.
InterPro; IPR00308; Chlamydia_PMP.
Pfam; PP03497; Autotransporter; 1.
Pfam; PF02415; Chlam PMP; 9.
Pfam; PF02415; Chlam PMP; 9.
TIGRPAMs; TIGR01414; autotrans barl; 1.
TIGRPAMs; TIGR01316; POMP_repeat; 5.
Complete proteome; Membrane; Multigene family; Outer membrane; Signal.
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                                                                                                                                                                                              16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
13-SEP-2005 (Rel. 48, Last annotation update)
Probable outer membrane protein pmpG precursor (Polymorphic membrane
protein G).
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NUCLECTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].

STRAIN-MODD / Nigg;

MEDLINE-20150255; PubMed=10684935; DOI=10.1093/nar/28.6.1397;

Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,

White O., Hickey E.K., Peterson J.D., Utterback T.R., Berry K.J.,

Bass S., Linher K.D., Weidman J.F., Khouri H.M., Craven B.,

Dodson R.J., Gwinn M.L., Nelson W.C., DeBoy R.T., Kolonay J.F.,

McClarty G., Salzberg S.L., Eisen J.A., Fraser C.M.;

Tennome sequences of Chlamydia trachomatis MoPn and Chlamydia

pneumoniae AR39.";

Nucleic Acids Res. 28:1397-1406(2000).

-: SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
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AA; 104867 MW; 32079BD6BBB2DA42 CRC64;
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Chlamydia muridarum.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydia.
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Conservative:
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Indels:
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PIR, H81722; H81722.
TIGR; TC0263; -.
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13 TOTTTAMATOGOGOGOGALIANTCANGCACADANTCATCCCCCOAGGALITACCACGOGOGALIANTCANGCACCACADANTCACTCCCCCCCCCCCCCCCCCCCCCCCCC

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Carty H.A., Umayam L.A., Haft D.H., Peterson J.D., Beanan M.J.,
White O., Salzberg S.L., Haia R.-C., McClarty G., Rank R.G.,
Bavoil P.M., Fraser C.M.;
"Genome sequence of Chlamydophila caviae (Chlamydia psittaci GPIC):
"Genome sequence of Chlamydophila caviae (Chlamydia caviae)
"The examining the role of niche-specific genes in the evolution of the Chlamydiaceae.";

Nucleic Acids Res. 31:214-2147(2003).
"REMBL, AR016995; AAP05029.1; -; Genomic_DNA.

TIGR; CCA00278; -..

GO, GO:0019867; Couter membrane; IEA.

RIGEPRO; PR001546; Autorransporter.

RIGEPRO; PR001546; Autorransporter.

RIGEPRO; PR001347; ChlamyMP.M.

RIGEPRO; PR001347; ChlamyMia_PMP.

Pfam; PP073748; ChlamyMia_PMP.

Pfam; PP073748; ChlamyMia_PMP.

Pfam; PP073748; ChlamyMia_PMP.

RIGRFAMS; TIGR01414; autorrans_barl; 1.

RIGRFAMS; TIGR01414; autorrans_barl; 1.

RIGRFAMS; TIGR01376; POMP_repeat; 6.
                                                         GPIC):
of the
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SEQUENCE 1011 AA; 107952 MW; EBDA9FA1C46EDEE6 CRC64;
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Matches:
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POLYMORPIC outer membrane protein G family
protein/autotransporter.
Crderedlocusnames-CCA00278;
Chlamyobhila caviae.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae;
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01-FEB-2005 (TERMELLE) 29, Last annotation update) POLYMOTPHIC outer membrane protein. POLYMOTPHIC outer membrane protein. Name-pump76; OrdereduccusNames-CAB269; Chlamydophila abortus. Bacteria; Chlamydiae; Chlamydiacee; Chlamydiacee; Chlamydophila. NCBI_TAXID-83555; NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]. STANNESS61; NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]. Thomson N. N., Years C., Sell K., Holden M.T.G., Bentley S.D., Thomson N. N., Years C., Sell K., Holden M.T.G., Bentley S.D., Thomson N. N., Clarke M., Clarke M., Harris B., Doggett J., Ownond D., Wungall K., Clarke M., Parkhill J., Phance Z., Sanders M., Ownoil M.A., Price C., Barrell B.G., Parkhill T., Hance Z., Sanders M., Ownil M.A., Price C., Barrell B.G., Parkhill J., Price C., Barrell B.G., Parkhill J., Price C., Barrell B.G., Parkhill J., Gonomic DNA. Ownil M.A., Price C., Barrell B.G., Parkhill J., Price C., SEQUENCE 1024 AA, 108663 NW, 268E61415C8FD434 CRC44, SEQUENCE 1024 AA, 108663 NW, 268E61415C8FD434 CRC44, SEQUENCE 1024 AA, 108663 NW, 268E61415C8FD44 CRC44, J. A.	Q5L6J7; 01-FEB-2005 (TrEMBLrel. 29, Created)	ò	H .
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PubMed=18837807; DOI=10.1101/gr., 1884805; Thomson N.R., Years C., Bell K., Holden M.T.G., Bentley S.D., Livingstone M., Cerdeno-Tarraga AM., Harris B., Doggett J., Compute D., Mungall K., Falkwell T., Hance Z., Sanders M., Quallal M.A., Price C., Barrell B.G., Parkhill J., Longbottom D.; The Chlamydophila abortus genome sequence reveals an array of Track Child M. Parkhill J., Longbottom D.; The Chlamydophila abortus genome sequence reveals an array of Track Child M. Parkhill J., Longbottom D.; The Chlamydophila abortus genome sequence reveals an array of Track Child M. Parkhill J., Longbottom D.; The Chlamydophila abortus genome sequence reveals an array of Track Child M., Longbottom J., Longbottom D.; The Chlamydophila abortus genome sequence reveals an array of SEMBL; CR848038; CAH63725.1; -; Genomic_DNA. SEMBL; CH848038; CAH63725.1; -; Genomic_DNA. SEMBL; CH848038; CAH63725.1; -; Genomic_DNA. SEMBL; CH848136; CAH63725		q	11 224 LeuPh
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201 MetPheAspAsnAsnAlaGlyAsnPheGlyThrValPheArgGlyAsnSerAsnAsnAsn 220
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MEDLINE=22483673; PubMed=12595433;
DOI=10.11281A1.71.3.1200-1208.2003;
Stothard D.R., Toth G.A., Batteiger B.E.;
"Polymorphic membrane protein H has evolved in parallel with disease-causing groups of Chlamydia trachomatis.";
Infect. Immun. 71:1200-1208 (2003).
Infect. Immun. 74:1200-1208 (2003).
GO; GO:0019867; C:outer membrane; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chlamydia trachomatis.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydia.
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Last sequence update)
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01-JUN-2003 (TrEMBLrel. 24, Last sequence
01-MAR-2004 (TrEMBLrel. 26, Last annotating Polymorphic membrane protein H (Fragment)
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Q84FU7;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL, AECO1360; AAC68470.1; -; Genomic_DNA.

R PIR; H11460; H71460.

R PIR; H11460; H71460.

R InterPro; IPR001368; -.

InterPro; IPR001368; ChlampMP M.

InterPro; IPR0013797; Autotransporter; 1.

R Pfam; PF02415; Chlam PMP; 6.

R Pfam; PF07548; Chlam PMP M; 1.

TGRFAMS; TIGR01376; POMP repeat; 4.

TGRFAMS; TIGR01376; POMP repeat; 4.

T SIGNAL 1. 24 Probable outer membrane; Signal.

T CHAIN 25 1016 Probable outer membrane protein pmpH.
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                                                                                                                                                                                MEDIJNE=990000993; PubMed=9784136; DOI=10.1126/science.282.5389.754; Stephens R.S., Kalman S., Lammel C.J., Fan J., Marathe R., Aravind Mitchell W.P., Olinger L., Tatusov R.L., Zhao Q., Koonin E.V.,
                                                                                                                                                                                                                                                                                                                                            -i. SIMILARITY: Belongs to the PMP outer membrane protein family.
                                                                                                                                                                                                                                                   "Genome sequence of an obligate intracellular pathogen of humans
                                                                                                                                                                                                                                                                       Chlamydia trachomatis.";
Science 282:754-759(1998)
-!- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
                                             protein H).
Name-pmpH; OrderedLocusNames=CT872;
Chlamydia trachomatis
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydia.
NCBI_TaxID=813;
                             (Polymorphic
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Matches:
Conservative:
Mismatches:
                             Probable outer membrane protein pmpH precursor
                                                                                                                                                   NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
              10-MAY-2005 (Rel. 47, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indele:
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1589.00
92.7%
91.2%
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Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                   STRAIN=D/UW-3/Cx;
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WEDLINE-22483673; PubMed=12595433;

NUCLEOTIDE SEQUENCE.

WEDLINE-22483673; PubMed=12595433;

DOI=10.1128/IAI.71.3.1200-1208.2003;

Stochhard D.R., Toth G.A., Batteiger B.E.;

A stochhard D.R., Toth G.A., Batteiger B.E.;

T "Polymorphic membrane protein H has evolved in parallel with the three requirements of Chlamal Larachomatis.";

Infect. Immun. 71:1200-1208(2003).

REMBLA AY184169; AAA300033.1, -; Genomic_DNA.

REMBLA AY184469; AAA300033.1, -; Genomic_DNA.

RICEPPO; IPRO05546; Auto_transpibeta.

RICEPPO; IPRO01368; Chlample M. N.

RICEPPO; IPRO01368; Chlample M.

RICEPPO; IPRO01368; Chlample M.; 1.

REMI; PRO3197; Autorransporter; 1.

REMI; PRO3197; Chlam PMP; 6.

RIGERAMS; TIGRO1376; POMP repeat; 4.

ROW_TER 980 980
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                                                                     280 nLysGlySerIleValPheAapTyrAsnPheAlaLysGlyArgGlyGlySerIleLeuTh 300
        240 yAsnThrAlaTyrAspAspLeuArgIleLeuAlaAlaThrAsnGlnAspGlnAsnThrGl 260
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01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Polymorphic membrane protein H (Fragment).
Name-spmpH;
Chlamydia trachomatis.
Bacteria; Chlamydiae; Chlamydiaes; Chlamydiae.
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Matches:
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1551.50
99.3%
19.3%
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Q84FU6;
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300 rLysGluPhe 303
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1084 CH

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                                                                                                                                                                                                                                     981 AA; 104559 MW; 83C957685E57EC10 CRC64;
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
InterPro; IPR0015546; Auto transptbeta.
InterPro; IPR011427; ChlamPMP M.
InterPro; IPR003168; ChlamPMP M.
InterPro; IPR002016; Peroxidase.
Pfam; PF03797; Autotransporter; 1.
Pfam; PF037848; ChlamPMP, M; 1.
Pfam; PF03787; Chlam PMP; 6.
TIGRPAMS; TIGR01376; POMP repeat; 4.
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1566.00
99.7#
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Stred. No.:
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SEQUENCE
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Best Local Similarity:
Query Match:
DB:
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Pred. No.:
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 GlnGlyProValLeuGlnAsnTyrAlaPheIleSerAlaGlyGluThrLeuArg
                              GATITITICGAGICTGATGTTCTCGAAAAATGTTTCTTGCGGAAAAAAGGGAATGATCTCC
                                             GGGAAAACCGTGAGTATTTCCGGAGCAGGCGAAGTGATTTTCTGGGATAACTCCGTGGGG
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                                                                                                                       AA; 104460 MW; 27F6C8EA9F43B20F CRC64;
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302
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                                                                                                                                                         Length:
Matches:
Conservative:
Mismatches:
Indels:
InterPro; IPR011427; ChlamPMP M.
InterPro; IPR003368; Chlamydia_PMP.
InterPro; IPR002016; Peroxidase.
Pfam; PR01797; Autotransporter; 1.
Pfam; PR07548; ChlamPMP M; 1.
Pfam; PR07548; ChlamPMP M; 1.
IGRPAMS; TIGR01376; PEROXIDASE_1; UNKNOWN_1.
NON_TER 1 1
NON_TER 980 980
SEQÜENCE 980 AA; 104460 MW; 27F6CBEA9F43
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1036 AATTITCGGAACAGITITITCGAGGTAAGAATAATAATAATAATGCTGGTGGTGGAGGCAGTGGG 4095
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                                               101 GlyLysThrValSerIleSerGlyAlaGlyGluValllePheTrpAspAsnSerValGly 120
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WUCLEOTIDE SEQUENCE.

WUCLEOTIDE 3673; PubMed=12595433;

MOINTELNE=287673; PubMed=12595433;

MOINTELNE=287673; PubMed=12595433;

MOINTELNE=287673; PubMed=12695433;

Stothard D.R., Toth G.A., Batteiger B.E.;

Stothard D.R., Toth G.A., Batteiger B.E.;

Stothard D.R., Toth G.A., Batteiger B.E.;

Infect Immun. 71:1200-1208 (2003).

EMBL; AN184164; AA030028-11; Genomic_DNA.

GO; GO:0019867; C:outer membrane; IEA.

InterPro; IPR005546; Auto_transptbeta.
                                                                                             GGGAAAACCGTGAGTATTTCCGGAGCAGGCGAAGTGATTTTCTGGGATAACTCCGTGGGG
                                GATTTTTCGAGTCTGATGTTCTCGAAAATGTTTCTTGCGGAGAAAAGGGAATGATCTCC
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01-70N-2003 (TrEMBLrel. 24, Last sequence update)
01-70N-2004 (TrEMBLrel. 26, Last annotation update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Polymorphic membrane protein H (Fragment).
Name-pmpH;
Name-pmpH;
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydia.
NUBL TaxID-813;
                                                                                                                                                           TATTCTCCTTTATCTACTGTGCCAACCTCATCATCAACTCCGCCTGCT---
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Q84FU9;
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MEDLINB=22483673; PubMed=12595433;

MEDLINB=22483673; PubMed=12595433;

MEDLINB=22483673; PubMed=12595433;

AS Stochard D.R., Toth G.A., Battelger B.E.;

MEDLINB=10.113200-1208 (2018)

MEDLING Canaling groups of Chlamydia trachomatis.";

Infect Immun. 71:1200-1208 (2003).

EMBL; AY184166; AA030029.1; -; Genomic_DNA.

EMBL; AY184166; AA030030.1; -; Genomic_DNA.

MEDL; AY184166; AA030030.1; -; Genomic_DNA.

MEDL; AY184166; AA030030.1; -; Genomic_DNA.

MICEPPO; IPRO10427; ChlamPMP M.

InterPro; IPRO103169; ChlamPMP M.

InterPro; IPRO103169; Deroxidase.

Pfam; PPO7548; ChlamPMP M; 1.

Pfam; PPO7548; ChlamPMP M; 1.

PFam; PPO7549; ChlamPMP; 6.

MEDL; AR18418; PRO415; POMP_repeat; 4.

PROSITE; PS00435; PERXIDĀSE_1; UNKNOWN_1.

PROSITER PS00435; PERXIDĀSE_1; UNKNOWN_1.

PROFINE PS00435; PERXIDĀSE_1; UNKNOWN_1.

PROFINE PS004369; AN; 104934 MW; 75D5EAAF4633F691 CRC64;
                                                                           GCTAATGGCGACAATTTAACGATTACCGGACAAAACCATACATTATCATTTACAGATTCT 3705
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                                259 uThrdlyGlyGlyGlyGlyVallleCysSerProAspAspSerValLysPheGluGlyAs 279
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                                                                                                                                                                                                                                                01-JUN 2003 (TrEMBLrel. 24, Created)
01-JUN 2003 (TrEMBLrel. 24, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
10-MAY-2005 (TrEMBLrel. 30, Last annotation update)
Polymorphic membrane protein H (Fragment).
Name-pmpH,
Name-pmpH,
Sacreria, Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydia.
NGE_TAXID=813;
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Matches:
Conservative:
Mismatches:
Indels:
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1459.00
93.0%
91.4%
18.5%
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QB3U76 CHLTR PRELIMINARY;
QB3U76;
                                                                                                                                         GAAAGAATTC 4435
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Best Local Similarity:
Query Match:
DB:
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Pred. No.:
Score:
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Alignment Scores:
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Matches:
Conservative:
Mismatches:
Indels:
InterPro; IPR011427; ChlamPMP_M.
InterPro; IPR003368; Chlamydia_PMP.
InterPro; IPR002016; Peroxidase.
Pfam; PP03797; Autotransporter; 1.
Pfam; PP02415; ChlamPMP_M; 1.
Pfam; PP02415; Chlam_PMP; 6.
TIGRPAMs; TIGR01376; POMP_repeat; 4.
PROSITE; PS00435; PEROXIDASE_1; UNKNOWN_1.
NON_TER 989 989
SEQUENCE 989 AA; 104953 MW; 75D5F65D4F21E
                                                                                        US-10-701-844-1 (1-4435) x Q84FU9_CHLTR (1-989)
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91.4%
18.5%
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Best Local Similarity:
Query Match:
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                                TGCTGCTACTAATCAGGATCAGAATACGGAGACAGGAGGCGGTGGAGGAGTTATTTGCTC
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01-JUN-2003 (T-EMBL-E1. 24, Created)
01-JUN-2003 (T-EMBL-E1. 24, Last sequence update)
10-MAY-2005 (T-EMBL-E1. 24) Last annotation update)
Polymorphic membrane protein H (Fragment).
Name-pmpH;
Chlamydia trachomatis.
Bacteria; Chlamydiae; Chlamydiales; Chlamydia.
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Mismatches:
Indels:
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TITCAAAGACAATGAAGGGGGGTATICTICCGAGGGAACACAGCAIACGAIGITTAAG 4269
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Matches:
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Indels:
Gaps:
InterPro; IPR005546; Auto_transptbeta.
InterPro; IPR011427; ChlamPMP_M.
InterPro; IPR003168; ChlamPMI_M.
InterPro; IPR003168; ChlamPMI_a PMP.
Pfam; PF03797; Autotransporter; 1.
Pfam; PF03797; Autotransporter; 1.
Pfam; PF03748; ChlamPMP_M; 1.
Pfam; PF02415; Chlam_PMP; 6.
TIGRRAMS; TIGR01376; POMP_repeat; 4.
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NON_TER 991 A91; 105138 MW; 449691B65A0C
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WUCLECTIDE SEQUENCE.

MUCLECAGE SEQUENCE.

MEDINE=22483673; PubMed=12595433;

DOI=10.1128/IAI.71.3.1200-1208.2003;

Stothard D.R., Toth G.A., Batteiger B.E.;

Stothard D.R., Toth G.A., Batteiger B.E.;

Folymorphic membrane protein H has evolved in parallel with the three disease-causing groups of Chlamydia trachomatis.";

Infect. Immun. 71:1200-1208 [2003].

EMBL, AX184161; AAO30025.1; -; Genomic_DNA.

GO; GO:0019867; C:outer membrane; IRA.
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Q84FVO;
Q84FVO;
Q1-JUN-2003 (TrEMBLrel. 24, Created)
Q1-JUN-2003 (TrEMBLrel. 26, Last annotation update)
Q1-JUN-2004 (TrEMBLrel. 26, Last annotation update)
POlymorphic membrane protein H (Fragment).
Name-pmpH;
Name-pmpH;
Bacteria; Chlamydiae; Chlamydiales; Chlamydia.
NCB1 TaxID=813;
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WUCLEOTIDE SEQUENCE.

MEDLINE=22483673; PubMed=12595433;

MEDLINE=22483673; PubMed=12595433;

MOISTOTIDE SEQUENCE.

Stochard D.R., Toth G.A., Batteiger B.E.;

Stochard D.R., Toth G.A., Batteiger B.E.;

Stochard D.R., Toth G.A., Batteiger B.E.;

Infect. Immun. 71:1200-1208 (2003).

EMBL, AY184158; AA030020:1; -; Genomic_DNA.

EMBL, AY184159; AA030021:1; -; Genomic_DNA.

EMBL, AY184159; AA030021:1; -; Genomic_DNA.
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GlnGlyProValLeuGlnAsnTyrAlaPheIleSerAlaGlyGluThrLeuThrLeuLys
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Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydia.
NCBI_TaxID=813;
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QB3TJ6;
Q1-JUN-2003 (TrEMBLrel. 24, Created)
O1-JUN-2003 (TrEMBLrel. 24, Last sequence update)
O1-JUN-2005 (TrEMBLrel. 30, Last annotation update)
Polymorphic membrane protein H (Fragment).
Name=pmpH;
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NUCLECTION TO CALL TO CALL BATEGIGER B.E.;

NUCLECTION TO CALL B.E.;

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                                                           4329
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          238 uPheLysAspAsnGluGlyGlyIlePhePheArgGlyAsnThrAlaTyrAspAspLeuGl 258
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                                                                                       258 yileLewalaalaThrSerargAspGlnAsnThrGluThrGlyGlyGlyGlyGlyGlyGlyGlil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Name-pmpH;
Chlamydia trachomatis.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydia.
NCBI_TaxID=813;
                                                                                                                                                                                                                                                          4390 CAACTTTGCAAAAGGCAGAGGCGGAAGCATCCTAACGAAAGAATTC 4435
                                                                                                                                                                                                                                                                                      Last sequence update)
Last annotation update)
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Matches:
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01-JUN-2003 (TrEMBLrel. 24, Last seq
01-MAR-2004 (TrEMBLrel. 26, Last ann
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1452.00
92.1%
90.5%
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NUCLEOTIDE SEQUENCE.

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RY NUCLEOTIDE SEQUENCE.

RX DOI=10.1128/IAI.71.3.1200-1208.2003;

RX DOI=10.1128/IAI.71.3.1200-1208.2003;

RY POLYMOTPHIC membrane procesin H has evolved in parallel with the three repolymorphic membrane procesin H has evolved in parallel with the three required groups of Chlampadia trachomatis.";

RY TOSIMOLIC TERMINATION TI.1200-1208(2003).

RY TIREAR AND TILEATOR TO CROUPT MEMBRANE.

RY TORIGO OF COUNTY TO CROUPE TEA.

RY TORIGO OF COUNTY TO CROUPE TO CROUP TERMINOL TERMINO
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     1270 GATTCTTGCTGCTACTAATCAGGATCAG---AATACGGAGACAGGAGGCGGTGGAGGA
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NCBI_TaxID=813;
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01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-JUN-2004 (TrEMBLrel. 26, Last annotation update)
Polymorphic membrane protein H (Fragment).
Name=pmph;
Chlamydia trachomatis.
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1404.50
90.9%
88.0%
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Q84FV2;
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084FV2 CHLTR
064FV2 CHLTR
01-UUN-2
DT 01-UUN-2
DT 01-WAR-2
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
GO; GO:0019867; C:outer membrane; IEA.
InterPro; IPR01427; ChlamEMP M.
InterPro; IPR01427; ChlamEMP M.
InterPro; IPR013369; ChlamDMP M.
InterPro; IPR002016; Peroxidase.
Pfam; PR03797; Autotransporter; 1.
Pfam; PR0748; ChlamPMP M; 1.
Pfam; PR02415; Chlam PMP; 6.
TIGRPAMS; TIGR01376; POMP repeat; 4.
PR081IE; PS00435; PEROXIDASE_1; UNKNOWN_1.
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Alignment Scores:
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3970 TCTGTAGAGACTAGTTTGGAGATCTCAGGCGTCAAAAAGGGGTCATGTTCGATAATAAT 4029
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          PMP13 CHLPN STANDALL, O92410; 16-007-2001 (Rel. 40, Created) 16-007-2001 (Rel. 40, Last sequence update) 16-007-2001 (Rel. 40, Last sequence update) 13-SEP-2005 (Rel. 48, Last annotation update) probable outer membrane protein pmp13 precursor (Polymorphic membrane protein 13) (Outer membrane protein 14).

Name-pmp13; Synonyms-omp14; Dosy, CpB0470; OrderedicousNames-CPN0453, CPD029, CpB0470; Chlamydia pneumoniae; Chlamydiales; Chlamydiaceae; Chlamydophila.
                                                                                                                                                                                                                                                                                                                                                                                 AGTGGGTTCCGCTACACCATCAAGTACGACTTTTACAGTTAAAAACTGTAAAGGGAAAGT
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MEDLINE=99206606; PubMed=10192388; DOI=10.1038/7716;
                            GATTTTTCGAGTCTGATGTTCTCGAAAAATGTTT
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This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
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Geng M.M., Schubmacher A., Muehldorfer I., Bensch K.W., Schaefer K.P.,
Schneider S., Pohl T., Essig A., Marre R., Melchers K.;
"The genome sequence of Chlamydia preumoniae TW183 and comparison with
other Chlamydia strains based on whole genome sequence analysis.";
submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
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NUCLEOTIDE SEQUENCE OF 1-262.
STRAIN=CWLO29 / VR1310;
MEDLINE=20007584; PubMed=10539856;
Christiansen G., Boesen T., Hjerno K., Daugaard L., Mygind P.,
Madsen A.S., Knudsen K., Falk E., Birkelund S.;
"Molecular biology of Chlamydia pneumoniae surface proteins and their
                                                                                                                                                                            Bowman C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=20330349; PubMed=10871362; DOI=10.1093/nar/28.12.2311; Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K., Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.; Comparison of Whole genome genences of Chlamydia pneumoniae J138 from Japan and CWL029 from USA."; Nucleic Acids Res. 28:2311-2314 (2000).
                                                               MEDILE 20150255; PubMed=10684935; DOI=10.1093/nar/28.6.1397; Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F., White O., Hickey B.K., Peterson J.D., Utterback T.R., Berry K.J., White O., Linher K.D., Weidman J.F., Khouri H.M., Craven B., Bowman Dodson R.J., Gwinn M.L., Nelson W.C., DeBoy R.T., Kolonay J.F., McClarry G., Salzberg S.L., Eisen J.A., Fraser C.M.; Genome sequences of Chlamydia trachomatis MoPn and Chlamydia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -1. SIMILARITY: Belongs to the PMP outer membrane protein family -1. SIMILARITY: Contains 1 autotransporter (TC 1.B.12) domain.
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Am. Heart J. 138:S491-S495(1999).
-!- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
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EMBL, AE002191; AAF38156.1; ALT_INIT; Genomic_DNA.
EMBL; BA00008; BAA$8666.1; -; Genomic_DNA.
EMBL, AE017158; AAP$94.01.1; -; Genomic_DNA.
EMBL, AJ133034; CAB37074.1; -; Genomic_DNA.
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NUCLEOTIDÉ SEQUENCE [LARGE SCALE GENOMIC DNA].
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SEQUENCE [LARGE SCALE GENOMIC DNA]
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Interpro; IPR011427; ChlampWP M.
Interpro; IPR003368; Chlamydia_PMP.
Pfam; PP03797; Autotransporter; 1.
                                                                                                                                                                                                                                                                                                                                                               Nucleic Acids Res. 28:1397-1406(2000).
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PHCI-2DPAGE; Q9Z896; -.
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Length:

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ò		AGTTAACATTAAA	AAATCTTGACAATTCTA	TTGCAGCTTTGCCTTTA		È	162
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è		ACTTATTAGGGAG	PPPPACTGPTTTAGGG	TGTTTTTGGGAAACTTATTAGGGGAGTTTTTACTGTTTTAGGGGAGACACTACTTTGACTTTTA		È	168
; a		 snArgAlaGlyAl	::: 	CysPheSerAsnArgAlaGlyAlaLeuGlnIleLeuGlyLysglyGlyValPheSerPhe		qa	*
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ò		CATCATCTACTTC	ACAGAAGATCCAGTAG	CAGGGAGTGTCATCTACTTCAACAGATCCAGTAGTAATTTTTTTT		ò	217
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GATGGAGGAGCTATCTTCTGTAAGAATGGTGCGCAAGCAGGATCCAATAACTCTGGATCA 1446 GTTTCCTTTGATGGAGAGAGAGTAGTTTTTTAGTAGCAATGTAGCTGCTGGGAAAGGG 1506 67 AATATCGCTAATGATGGTGGAGCGATTTATTTAGGAGAATCTGGAGAGCTCAGTTTATCT 1626 -----GCTAATGGAAGCAGTACTTTGTACCAAAATGTTACGATAGAG 1932 33 CAAGGAAGGATTGTTCTTCGTGAAAAGGCAAAATTATCAGTGAATTCTCTAAGTCAGACA 1992 44 TCAGATTTG---ACTCTAGGGAATGACATGCCTAAGTATGGCTATCAAGGAAGCTGGAAG 2400 GGAGCTATTTATGCCAAAAAGCTCTCGGTTGCTAACTGTGGCCCTGTACAATTTTTAAGG 1566 50 CCACAACAGCCTCCTGCCGCTAATCAGTTCACCTTTCCAATCTGCATTTGTCTCTT 2109 10 TCTTCTTTGTTAGCAAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGCGCAAGAT 2169 70 TCTCATCCTGCAGTCATTGGT----AGCACAACTGCTGGTTCTGTTACAATTAGTGGGCCT 2226 27 ATCTTTTTTGAGGATTTGGATGATACAGCTTATGATAGGTATGATTGGCTAGGTTCTAAT 2286 ---CAAAAAATCAATGTCCTGAAATTACAGTTAGGGACTAAGCCCCCCAGCTAATGCCCCA 2343 GCAAACGGAAATAACCAGCCAGCGCAGTCTTCCAAACTTCTAAAAATTAAC----- 1857 ::: ||| |- ||| |- ||| |- ||| |- ||| |- ||| |- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- ||- 12 TyrdlydlyalailePheCysThrProProAlaThrProProProThrGlyVal---Ser 330 |||||||::||| ||||||||:::||||::: ::: GlyAlaLeuTyrGlyLysIleSerIleAspSerAsnLysSerThrllePheLeuGly 370 -------ThrProThrArgAsnSerileHisPheGlyLysAspAlaLys 421 62 ------AlaValValAsnValGlnSerThrAsnGlyAlaLeuThrIleSerGlyThr 578 ::: LeuGlyLeuVallysAsnSerGlnAspCysCysAspAsnHisGlyMetPhcAsnLysAsp 598 54 AspSerLeuAspGlyThrLysAla-----

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AsnlleThrLysSerLeuPheGlySerSerArgPhePheSerGlyGlyThrSerArgVal
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790 ThrTyrSerArgSerAsnGluLysValLysThrSerTyrThrLysLeuProLysGlyArg
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This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
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                                                                        16-0CT-2001 (Rel. 40, Last sequence update)
10-MAY-2005 (Rel. 47, Last annotation update)
Probable outer membrane protein pmpH precursor (Polymorphic membrane
                                                                                                                                                                                                                                                                                                                                   STRAIN=MOPD / Nigg;
MEDLINE=20150255; PubMed=10684935; DOI=10.1093/nar/28.6.1397;
Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,
White O., Hickey B.K., Peterson J.D., Utterback T.R., Berry K.J.,
Bass S., Linher K.D., Weidman J.F., Khouri H.M., Craven B., Bowman Dodson R.J., Gwinn M.L., Nelson W.C., DeBoy R.T., Kolonay J.F.,
McClarty G., Salzberg S.L., Bisen J.A., Fraser C.M.;
"Genome sequences of Chlamydia trachomatis MoPn and Chlamydia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPRO05546; Auto_transptbeta.
InterPro; IPRO01427; ChlamPMP M.
InterPro; IPRO01427; ChlamPMP M.
PfanterPro; IPRO01368; ChlamPMP M.
PfanterPro; IPRO01376; Pomp Prop. 5.
Pfant; PPO7484; ChlamPMP M. 1.
Pfanty PPO7484; ChlamPMP M. 1.
Pfanty PPO7548; ChlamPMP M. 1.
Pfanty PPOMP repeat; 5.
Complete proteome; Membrane; Multigene family; Outer membrane; Sig SIGNAL
1 24 Porchafial.
CHAIN
SEQUENCE 980 AA; 104697 MW; CDA7FE64F37EDID7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -!- SIMILARITY: Belongs to the PMP outer membrane protein family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              pneumoniae AR39.";
Nucleic Acids Res. 28:1397-1406(2000).
-!- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
                                                                                                                     protein H).
Name-pmpH, OrderedLocusNames=TC0264;
Chlamydia muridarum.
Bacteria, Chlamydiae; Chlamydiaeceae; Chlamydia.
NCBI_TaxID=83560;
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231
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TIGR; TC0264; -.
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Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                        [1] NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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                                                  (Rel. 40, Created)
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요 કે 셤 & 음 중 음

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955 ATAGATGCTAAGAGCTTAAGGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAAAT 1014
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ::: |||||------AlaLeuThrLysSerCysPheThrGluThrThrGluAsnLeuThrPhe 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LeuSerPheAlaAlaThrValGlnGluThrLeuAsnSerSerAspSerTyrAsnGlyAsn 39
                                                                                                                          canding the role of niche-specific genes in the evolution of the champdiaceae.";

Chlamydiaceae.";

Chlamydiaceae.";

Chlamydiaceae.";

Chlamydiaceae.";

Chlamydiaceae.";

RMBL; AEO16995; AAP05033.1; -; Genomic_DNA.

RMBL; AEO16995; AAP05033.1; -; Genomic_DNA.

R TIGR; CCA00282; -.

R TIGR; CCA00282; -.

Interpro; IPR005546; Auto_transptbeta.

R Interpro; IPR001347; ChlamPMP M.

Interpro; IPR001369; ChlamPMP M.

R Pfam; PF03797; Autocransporter; 1.

R Pfam; PF037548; ChlamPMP; 6.

R TIGRPAM; ITGR01376; POMP_repeat; 6.
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ThralaThrSeralaPheGlnThrLysGluThrGlnAlaGlyAlaGluTyrThrCysGlu
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Carty H.A., Umayam L.A., Haft D.H., Peterson J.D., Beanan M.J.,
White O., Salzberg S.L., Heia R.-C., McClarty G., Rank R.G.,
Bavoil P.M., Fraser C.M.,
"Genome sequence of Chlamydophila caviae (Chlamydia psittaci GPIC):
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         942 AA; 100425 MW; E332BCB88507A912 CRC64
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                                                                                                            158 ThrProlleValGlyAspValLeuLysGlySerIlePheCysValGluThrGlyLeuGlu 177
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0823XI_CHLCV PRBLIMINARY; PRT; 942 AA.
0823XI_TITEMBLrel. 24, Created)
01-JUN-2003 (TYEMBLrel. 24, Last sequence update)
01-JUN-2003 (TYEMBLrel. 26, Last annotation update)
01-MAR-2004 (TYEMBLrel. 26, Last annotation update)
01-MAR-2004 (TYEMBLrel. 26, Last annotation update)
polymorphic outer membrane protein G family protein/autotransporter,
polymorphic outer membrane protein G family protein/autotransporter,
OrderedLocusNames=CCA00282;
Chlamydophila caviae.
Chlamydophila caviae.
NGE TAXID-89357;
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MEDLINE=22569155; PubMed=12682364; DOI=10.1093/nar/gkg321;
Read T.D., Myers G.S.A., Brunham R.C., Nelson W.C., Paulsen I.T.,
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188	Acid: Langer Lan	요 2
1075	GAGGCTCCTATTGCCTTTGTAGCGAATGTTGCAGAAGAAGAGGGGAGGAATTGCTGCT	e e
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263	3 AlaAlaProGluLeuLysPheGludlyAsnalaGlnLeuLeuPheLeuGluAsnSerSer 282	Š
1495	S GCTGGGAAAGGGGAATTTATGCCAAAAAGCTCTCGGTTGCTAACTGTGGCCCTGTA 1554	: 셤
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1780	30 ATTCTCTTTAATGATCCCATCGAGATGGCAAACGGAAATAACCAGCGCAGCGCAGTCTTCC 1839	. A
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2029	GATTITGIAACTCCACAACCACCACAACAGCCTCCTGCGGCTAATCAGITGATCACGCTT 2088
471	- COLUMN COLUM
2089	
2149	49 ACCAATCCTCCAGGGCAAGATTCTCATCCTGCAGTCATTGGTAGCACAACTGCTGGT 2205
2206	TCTGTTACAATTAGTGGGCCTATCTTTTTTGAGGATTTGGATGATACAGCTTATGATAGG 2265
531	TATGATTGGCTAGGTTCTAATCAAAAATCAATGTCCTGAAATTACAGTTAGGGACTAAG 2325 ::
2326	126 CCCCCAGCTAATGCCCCATCAGATTTGACTCTAGGGAATGAGATGCCTAAGTATGGC 2382
2383	TATCAAGGAAGCTGGAAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCTTATACT 2442 ::: ::: TyrGlnGlyaentrpThr1leAlaTrpAlaGlnGlyThrAlaGlyThrHisGluGlnLys 590
2443	CTGAAAGCTACATGGACTAAAATCGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTG 2502
2503	GTTCCAAAIAGTTTAIGGGGATCCATTTTAGATATACGATCTGCGCAITCAGCAATTCAA 2562 ::: ::: ValproAsnThrLeuTrpGlyAlaPheThrAspMetArgAlaLeuHisGlnLeuMetSer 630
2563	GCAAGTGTGGATGGGCGCTCTTATTGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTC 2622
2623	TTCTATCATGACCGGATGCTTTAGGTCAGGGATATTCGTATATTAGTGGGGGTTATTCC 2682
2683	TTAGGAGCAAACTCCTACTTTGGATCATCGATGTTTGGTCTAGCATTTACCGAAGTA 2739
2740	TITGGTAGATCTAAAGATTATGTAGTGTGGTCGTTCCAATCATCATGCTTGCATAGGATCC 2799
2800	800 GTTTAT
2842	TTCGGAGATGCGTTTATCGT 2862
2863	GCTAGCTACGGGTTTGGGAATCAGCATATGAAACCTCATATACA
2908	TITGCAGAGAGAGCGATGTTCGTTGGATAATAACTGTCTGGCTGG
2959	ATTGGAGCGGGATTACCGATTGTGATTACTCCATCTAAGCTCTATTTGAATGAGTTGCGT 301E

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ACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAATACTGCTCAAGCTGATGGG 1032
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CCTTTCGTGCAAGCTGAGTTTTCTTATGCCGATCATGAATCTTTTACAGAGGAAGGCGAT 3078
                                                                                                                                                                                          TITGATCGATGTTCTAGTACACATCCTAATAAATATAGCTTTATGGCGGCTTATATCTGT 3198
                                                                                                                                                                                                                                                                                                                                                                                    3319 TCTCTAACAAGTAATATAGAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCT 3378
                                                                                                                                                                                                                                                                                                                   ThrTyrSerGluHisIleGluLeuPheGlyHisGlyGlyPheGluLeuArgGlySerAla 929
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Submitted (SEP-1996) to the EMBL/GenBank/DDBJ databases.
EMBL, U72499; AAB18188.1; -; Genomic_DNA.
GO, GO.0019867; C: Guter membrane; IRA.
InterPro; IPR005515; Autotransporter.
InterPro; IPR005546; Autotransporter.
InterPro; IPR01427; ChlamPMP.
InterPro; IPR01427; ChlamPMP.
Pfam; PP07797; Autotransporter; 1.
Pfam; PP07798; ChlamPMP. M; 1.
Pfam; PP07748; ChlamPMP. M; 1.
Pfam; PP07415; ChlamPMP. M; 1.
Pfam; PP07415; ChlamPMP. M; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Putative 98 kDa outer membrane protein.
Chlamydophila abortus.
Bacteria, Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
NCBI_TaxID=83555;
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(TrEMBLrel. 02, Last sequence update)
(TrEMBLrel. 26, Last annotation update)
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926 AA; 98439 MW; 3E755E52F594750F
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TIGREAMS; TIGRO1376; POMP repeat; 5.
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01-PEB-1997 (TYEMBLYEL: 0:
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603 2557 623 2614 643	Oy 2731 ACCGAAGTATTGGTAGATCTAAAGATTATGT Oy 2731 ACCGAAGTATTGGTAGATCTAAAGATTATGT Db 683 CYSGlnLeuPheAlaLysAspLysAspTyLe		2917 761		Oy 3157 ACACATCCTAATAATATAGCTTTATGCGGGGGGGGGGGG	860 3277 880 3337	900 3397 920 SULT 20 L6J3 CHLAB Q5L6J3 CH	AC Q5L6J3; DT 01-FRB-2005 (TrEMBLrel. 29, Created) DT 01-FBB-2005 (TrEMBLrel. 29, Last sequence
	1681 AATGCTGCCGATGTTAATGGCGTAACTGTGTCCTCACAAGCCATTTCGATGGGATCGGGA 1740	ACCAGCCAGCGAGTCTTCCAAACTTCTAAAAATTAACGAT :::::: ::	1894	1993 GGTGGGAGTCTGTATATGGAAGCTGGGAGTACATGGGATTTTGTAACTCCACAACCA 2049	1110 TCTTCTTGTTAGCAAAGATGCAGTTACGAATCCTCCTACCAATCCTCCAGGCGAGAT 2169 ::	2224 CCTATCTTTTTGAGGATTTGGATGATACAGCTTATGATAGGTATGATTGGCTAGGTTCT 2283 512 AlalleGlyVallleAspProThrGlyLysPheTyrGlu	2323 AAGCCCCCAGCTAATGCCCCATCAGGAATGAGGAATGAGGAATGGGC 2382 [583 GlnThrAlailePheThrTrpAsnLysThrGlyTyrValProAsnProGluArgArgAla 602 2497 TCTTTGGTTCCAAATAGTTTATGGGGATCCATTTTAGATATACGATCGCGCATTCAGCA 2556
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CAAGAGACATGGACAACAGATGCCTTTCAT 3276 TCTATGTATGCTTCTCTAACAAGTAATATA 3336 ::: ::: || || || || ::: GlyAsnHislleAlaLeuThrSerGlyVal 899 CGAGATGCTTCTCGAGGCTATGGTTTGAGT 3396 AGGAAGGCGATCAAGCTCGGGCATTCAAG 3096 SCTIATATCTGTGATGCTTATCGCACCATC 3216 ATTGTCGAGGATTATGGGTTTCTGGAGTT 2613 TAGGTCAGGGATATCGGTATATTAGTGGG 2673
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:luanaratysPheArgHisIleSerSer 662 GA---TCATCGATGTTTGGTCTAGCATTT 2730 TAGTGTGTCGTTCCAATCATCATGCTTGC 2790 MATATARAPACCICATATACATTTGCAGAG 2916 TIGGCTGGAGAGATTGGAGCGGGATTACCG 2976 -----CTATCT 2811 -----TTGTŢCGGAGAŢĢCĢTTT 2856 :::||| ||||||||||||.ysGluIleProIlePheLeuAspAlaGln 742 ||| |euGlyLeuThrLeuSerThrSerValPro 780 :::||| ||| ::: ABDValSerTrpLeuThrThrAlaThrAsn 879 :::|||||| erArgGluAspSerLeuSerValAlaPhe 682 ::: ysPheAspAspLeuThrArgLeuPheAsn 722 ce update) 26 AA.

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                                                                                                                                                            STRAIN-S26/3;
PubMed=15837807; DOI=10.1101/gr.3684805;
Thomson N.R., Yeats C., Bell K., Holden M.T.G., Bentley S.D.,
Invingatione M., Cerdeno-Tarraga A.-M., Harris B., Doggett J.,
Ormond D., Mungall K., Clarke K., Feltwell T., Hance Z., Sanders I
Quail M.A., Price C., Barrell B.G., Parkhill J., Longbottom D.;
"The Chlamydophila abortus genome sequence reveals an array of
variable proteins that contribute to interspecies variation.";
Genome Res. 15:629-640(2005).

EMBL; CR848038; CAH63732.1; -; Genomic_DNA.
                                                                               Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila
01-FEB-2005 (TrEMBLrel. 29, Last annotation update)

Polymorphic outer membrane protein.

Name-pmp146; Synonyma-pomp98A; OrderedLocusNames=CAB282;

Chlamydophila abortus.
                                                                                                                                                                                                                                                                                                                                                                                      926 AA; 98440 MW; F81C2A79A3D575D1 CRC64;
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Conservative:
Mismatches:
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1662 1254 1015 ACTGCTCAAGCTGATGGGGGAGCTTGTCAAGTAGTCACCAGTTTCTCTGCTATGGCTAAC 1074 1255 TACTCCTACGGGAACGTTGCTTTCCTGAATAATGGAAAAACCTTGTTTTCTCAACAATGTT 1314 1315 GCTTCTCCTGTTTACATTGCTGCTAAGCAACCAACAAGAGGGACAGGCTTCTAATACGAGT 1374 1375 AATAATTACGGAGATGGAAGGAGCTATCTTCTGTAAGAATGGTGCGCAAGCAGGATCCAAT 1434 GCTGGGAAAGGGGAGCTATTTATGCCAAAAGCTCTCGGTTGCTAACTGTGGCCCTGTA 1554 CAATTITIAAGGAAT-----ATCGCTAATGATGGTGGAGCGATTTATTAGGA 1602 1663 AAAAGAACAGCCAAAGAGAATGCTGCCGATGTTAATGGCGTAACTGTGTCTCCTCACAAGCC 1722 ATTICGATGGGATCGGGAAAATAACGACATTAAGAGCTAAAGCAGGGCATCAGATT 1782 CTTCTAAAAATTAACGATGGTGAAGGA-----TACACAGGGGATATTGTTTTTGCT 1893 -----AATGGAAGCAGTACTTTGTAC 1914 1975 AATTCTCTAAGTCAGACAGGTGGGAGTCTG---TATATGGAAGCTGGGAGTACATGGAT 2031 170 IleSerCysLysAlaPheSerLeuThrGlySerSerLysGluIleSerPheThrThrAsn 189 -----IleAlaAlaThrGlyIleAlaHis 205 ----GlyThrileArg 214 -----ThrGly 265 306 AlaPheileAsnAsnLysValThrHisAlaThrProLysGlyGlyAlaIleGlyIleAla 325 326 AlaAsnGlyGluCysSerLeuThrAlaGluHisGlyAspIleThrPheAspAsnAsnLeu 345 SerPheTyrAspProlleThrVal---GluGlyAsn------AlaAlaAsp 392 CAAAATGTTACGATAGAGGAAGGATTGTTCTTCGTGAAAAGGCAAAATTATCAGTG 1974 |||| :::|||::: |GlnProlleThrLeuAlaAlaGlyGluLeuValLeuArgSerGlyValGluValGluAla 452 453 LysThrValValGlnThrAlaGlySerLeulleLeuMetAspAlaGlyThr----- 469 TTTTCCAGAAATACTGCGGTAGAGTTTGATGGGAACGTAGCCCCGAGTAGGAGGAGTT 215 PheSerGlyAsnThrAlaVal-------AsnSerGlyGlyAlaVal TyrserGluAlaSerMetThrIleAlaGlyAsnAsnHisValAlaPheSerAsnAsnAla .-----Gly GTTCAGGATGGGCAGCAGGAGTGTCATCATCTACTTCAACAGAAGATCCAGTAGTAAGT ||| |13 GlyGluLysLeuThrGluGluGlnAlaAlaValAlaAspAsnLeuLysThrThrPheThr GAATCTGGAGAGCTCAGTTTATCTGCTGATTATGGAGATATTATTTCGATGGGAATCTT SerThrAlaLysLysGlyGlyAla-----ValSer LeuSerAspAsnGln----1555 1723 190 206 1195 228 248 266 1495 1603 359 379 1843 393 1894 433

2091 CJ 794 469 CJ 2070	CTCCTACC 2151 Db 814 GluGlyArgVal)	le 485 Oy 3139	2205 ъръ 834 ув 505	Qy 3199 GATGCTTATGC ATGATAGG 2265 Ph B4 AGGV31YVFATGG	- 524 Qy 3259	2313 Db 874	2364 Qy 3	557 Db 894	CA 2424 Db 914	CT 2478 PMP1	1D 1D 8C 8C	2538	616 DE	2595 GN 0S 636 OC	XO	Abs RP	2712 RA	676 RT	2772 RL	696 RP	2805 RX RA	716 RA RA	2838 RA Dodson I RA McClarty	736 RT RT	2898 RL	754 RC	2958 774	3018 RT	793 RN RP
2032 TTTGTAACTCCACAACCACCACAACAGCCTCCTGCCGCTAATCAGTTGATCACGCTTTCC	2092 AATCTGCATTTGTCTCTTTCTTTGTTAGCAAACAATGCGAGTTACGAATCCTCCTACC	_	2152 AATCCTCCAGCGCAAAATTCTCATCCTGCAGTCATTGGTAAGCACAACTGCTGGT		::: :::	2266 TATGATTGGCTAGGTTCTAATCAAAAATCAATGTCCTGAAATTACAG [2314 TTAGGGACTAAGCCCCCAGCTAATGCCCCATCAGATTTGACTCTAGGGAAT	 LeuSerGlyLys	2365 GAGATGCCTAAGTATCAAGGAAGCTGGAAGCTTGCGTGGGATCCTAATACAGCA	2925 AATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAAACTGGGTATAATCCT			597 AsnProGluArgArgAlaProLeuValLeuAsnSerLeuTrpGlySerPhelleAspLeu	2539 CGATCTGCGCATTCAGCAATTCAAGCAAGTGTGGATGGGCGCTCTTATTGTCGAGGA	•	2596 TTATGGGTTTCTGGAGTTTCGATTTCTTTTTATGACGGGATGCTTTAGSTCAGGSAGGATGCTTTTAGSTCAGGSAGGATGCTTTTAGSTCAGGSAGAGGATGCTTTTAGSTCAGGSAGAGGATGCTTTTAGSTCAGGSAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGA	ATTAGTGGGGGTTATTCC	::: ::: 657 PheArgHisIleSerSerGlyTyrValLeuGlyAlaThrThrAsnThrSerArgGluAsp	2713 AIGTITGGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAAGATTATGTAGTGTGTGT	PheAlaLysAspL	-	AsnAlaAlaAs	2806CTAICTACCCAACAAGCTITAIGIGGAICCIAI	717 LeuThrArgLeuPheAsnGlyProAsnThrCysCysSerGlyPheSerLysGluIlePro	TTGTTCGGAGATGCGTTTATCCGTG		2899 TCATATACATTTGCAGAGAGCGATGTTCGTTGGGATAATAACTGTCTGGCTGG	2959 ATTGGAGCGGGATTACCGATTGTGATTACTCCATCTAAGCTCTATTTGAATGAGTTGCGT	::: ::: ::: 775 LeuSerThrSerValProlleProValPheSerSerIlePheAspSerTyrAla
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IAATATAGAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCT 3378
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AGCTGAGTTTTCTTATGCCGATCATGAATCTTTTACAGAGGAAGGCGAT 3078
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gHisAsnProSerCysMetThrGlyLeuAlalleAsnAspValSerTrp 873
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aThrAsnLeuAlaArgGlnAlaPheIleValArgAlaGlyAsnHis1le 893
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R.C., Shen C., Gill S.R., Heidelberg J.F.,
K., Peterson J.D., Utterback T.R., Berry K.J.,
M., Weidman J.F., Khouri H.M., Craven B., Bowman C.,
M., Nelson J.F., Kraser C.M.;
M.S., L., Eisen J.A., Fraser C.M.;
f Chlamydia trachomatis MoPn and Chlamydia
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ane protein pmp10 precursor (Polymorphic membrane embrane protein 5).
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LDMed=10539856;

esen T., Hjerno K., Daugaard L., Mygind P.,

m K., Falk E., Birkelund S.;

of Chlamydia pneumoniae surface proteins and their
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H., Kimoto M., Tabuchi M., Kishi F., Ouchi K.,
Hattori M., Kuhara S., Nakazawa T.;
e genome sequences of Chlamydia pneumoniae J138
29 from USA.";
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nvalAspLeuGlyAlaLysvalAlaPhe 926
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31-S495(1999)
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164; Q9S6P2;
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[LARGE SCALE GENOMIC DNA].

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798

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1612 GAGCTCAGTTTATCTGCTGATTATGGAGATATTATTTTCGATGGGAAT------ 1659
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ThrLeuThrGlyAspIleThrLeuGlnAsnLeuGlyAspSer---AlaAlaLeuThrLys
                                                                                                                                                                                               TTCGAGAACATACGGACTTCTACAAATGGGGCAGCTCTAAGTAATAGCGCTGCTGATGGA
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                                                                                     319 AGTTGTTTTGGGAACTTATTAGGGAGTTTTTACTGTTTTAGGGAGAGGACACTCGTTGACT
                                                                                                                                       GlyCysPheSerAspThrThrGluSerLeuSerPheAlaGlyLysGlyTyrSerLeuSer
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                       Geng M.M., Schuhmacher A., Muehldorfer I., Bensch K.W., Schaefer K.P., Schneider S., Pohl T., Essig A., Marre R., Melchers K.; The genome sequence of Chlamydia pneumoniae Trw183 and comparison with other Chlamydia strains based on whole genome sequence analysis."; Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                           Knudsen K., Madsen A.S., Mygind P., Christiansen G., Birkelund S.;
"Identification of two novel genes encoding 97- to 99-kilodalton outer
membrane proteins of Chlamydia pneumoniae.";
Infect. Immun. 67:375-383 (1999).
-1- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
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Pfam, PF02415; Chlam PMP; 7.
Pfam, PF07548; ChlamPMP, M; 1.
SM00710; PBH; 4.
TIGRPAMS; TIGRO1414; autotrans barl; 1.
TIGRPAMS; TIGRO1376; POMP repeat; 5.
Membrane; Multigene family; Outer membrane; Signal.
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InterPro; IPR005315; Autotransporter.
InterPro; IPR011427; ChlamPMP M.
InterPro; IPR003968; Chlamydia_PMP.
InterPro; IPR006626; PbH1.
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MEDLINE=99081766; PubMed=9864239;
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EMBL; AE002192; AAF38160.1; -; Ge
EMBL; BA000008; BA398657.1; -; Ge
EMBL; A8077158; AAP98398.1; -; Ge
EMBL; AJ001311; CAA04671.1; -; Ge
PIR; G81591; G81591.
PIR; G86546; G86546.
TIGR; CP0303; -
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|SerThrLeuLysGlnProValThrLeuThrAlaGlyAsnLeuValLeuLysArgGlyVal
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3106 CTCCTAAATCTATCAGTTCCTGTTGGAGTTTTGATTTTGATCGATGTTCTAGTACACATCCT 3165 3285 CATGGAGTTGTGGTTAGAGGATCTATGTATGCTTCTCTAACAAGTAATATAGAAGTATAT 3345 GCCCATGGAAGATATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGT 3405 2929 CGTTGGGATAATAACTGTCTGGCTGGAGAGTTGGAGCGGGATTACCGATTGTGATTACT 2988 ::: |||||| 885 GlnAlaLeuGlnValArgAlaGlySerHisTyrAlaPheSerProMetPheGluValLeu 904 |||::: |||::: 707 TyralaGlyAlaPheTyrIleGlnHisIleThrGluCysSerGlyPheIleGlyCysLeu 3166 AATAAATATAGCTTTATGGCGGCTTATATCTGTGATGCTTATCGCACCATCTCTGGTACT 1226 GAGACAACGCTCCTATCCCATCAAGAGACATGGACAACAGATGCCTTTCATTTAGCAAGA 2815 CAACAAGCTTTATGTGGATCCTATTTGTTCGGAGATGCGTTTATC-----CGTGCTAGC 2989 CCATCTAAGCTCTAT---TTGAATGAGTTGCGTCCTTTCGTGCAAGCTGAGTTTTCTTAT GGGGGTTATTCCTTA---GGAGCAAACTCCTACTTTGGATCATCGATGTTTGGTCTAGCA "0223M9 CHLCV PRELIMINARY; PRT; 926 AA.

0823W9;
01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 26, Last sequence update)
01-JUN-2003 (TrEMBLrel. 26, Last annotation update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Polymorphic outer membrane protein G family
protein/autotransporter.
Chlamydophila caviae.
Chlamydophila caviae.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila. 2788 TGCATAGGATCCGTTTATCTATCT---------

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1021 CAAGCTGATGGGGGAGCTTGTCAAGTAGTCACCAGTTTCTCTGCTATGGCTAACGAGGCT 1080
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                                                                                        961 GCTAAGAGCTTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAAATACTGCT 1020
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| AsnAsnAlaSerIleLeuPheAsnGlnAsnHisSerAlaGluAspGlyGlyAlaIleSer
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MEDLINE=22569155; PubMed=12682364; DOI=10.1093/nar/gkg321; Read T.D., Myers G.S.A., Brunham R.C., Nelson W.C., Paulsen I.T., Heidelberg J.F., Holtzapple E.K., Khouri H.M., Pederova N.B., Carty H.A., Umayam L.A., Haft D.H., Peterson J.D., Beanan M.J., Mitte O., Salzberg S.L., Hafa R.-C., McClarty G., Rank R.G., Bavoil P.M., Fraser C.M.; Haia R.-C., McClarty G., Rank R.G., "Genome sequence of Chlamydophila caviae (Chlamydia psittaci GPIC):
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315
154
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204
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Matches:
Conservative:
Mismatches:
                                                                                                                                                               Chlamydiaceae.;
Nucleic Acids Res. 31:2134-2147(2003).
REBL; ARC16995; AAP05035.1; -; Genomic_DNA
TIGR; CCA00284; -. Genomic_DNA
GO; GO:0019867; C:outer membrane; IEA.
InterPro; IPR006515; Autotransporter.
InterPro; IPR006515; Autotransporter.
InterPro; IPR006546; Autotransporter.
InterPro; IPR006666; PBH1.
Pfam; PF03797; Autotransporter;
Pfam; PF0
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TIGRFAMS; TIGR01376; POMP_repeat; 5.
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29.4%
13.9%
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Pred. No.:
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Best Local Similarity:
Query Match:
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------LeuAsnGluThrLeuAlaLeuGlyGlyIleGlnPheSerAlaLysGlySer
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ACAATTAGTGGGCCTATCTTTTTGAGGATTTGGATGATACAGCTTATGATAGGTATGAT
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545 IleThrThrAbpValProSer---ThrThrArgSerProAlaGlnHisTyrGly
                          1978 TCTCTAAGTCAGACAGGTGGGAGTCTGTATATG---GAAGCTGGGAGTACATGGGATTTT
                                                            GTAACTCCACAACCACCACAACAGCCTCCTGCCGCTAATCAGTTGATCACGCTTTCCAAT
                                                                             CTGCATTTGTCTTTCTTCTTTGTTAGCAACAATGCAGTTACGAATCCTCCTACCAAT
                                                                                                                                   2155 CCTCCAGCGCAAGATTCTCATCCTGCAGTCATTGGTAGC---ACAACTGCTGGTTCTGTT
                                                                                                                                                    ------AspGlyThrLysIleAlaValIleAlaAlaValAlaAsnAlaLysAsnVal
                                   -----CTATCTACCCAACAAGCTTTATGTGGATCCTAT------
                                                                                                                LeuAlaIleAsnProAsnSerLeu------
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896 ThrSerGlyPheGluMetPheSerGlnPheGlyPheGluLeuArgSerSerSerArgAsn 915
757 ThrAspTyrProGluValLysGlySerTrpGlyAsnAspThrValGlyValAlaLeuSer 776
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MEDLINE=99081766; PubMed=9864239;
Knudsen K., Madsen A.S., Mygind P., Christiansen G., Birkelund S.;
"Identification of two novel genes encoding 97- to 99-kilodalton outer membrane proteins of Chlamydia pneumoniae.";
Infect. Immun. 67:375-383(1999).
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086164; Q9K299;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
10-MAY-2005 (Rel. 47, Last annotation update)
11 (Outer membrane protein pmp11 precursor (Polymorphic membrane protein 11) (Outer membrane protein pmp11; Synonyms-omp4; OrderedLocusNames=CPn0449, CP0302, CPB0468; Chlamydia pneumoniae)
11 (Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
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          STRAIN=AR39;
MEDLINE=20150255; PubMed=10684915; DOI=10.1093/nar/28.6.1397;
Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,
White O., Hickey E.K., Peterson J.D., Utterback T.R., Berry K.J.,
Bass S., Linher K.D., Weidman J.F., Khouri H.M., Craven B., Bowman C.,
Dodson R.J., Gwinn M.C., DeBoy R.T., Kolonay J.F.,
MCClarty G., Salzberg S.L., Eisen J.A., Fraser C.M.;
"Genome sequences of Chlamydia trachomatis MoPn and Chlamydia
                                                                                                                                                                                                                                                                                                                   STRAIN=TW-183;
Geng M.M., Schubmacher A., Muehldorfer I., Bensch K.W., Schaefer K.P.,
Schneider S., Pohl T., Essig A., Marre R., Melchers K.,
The genome sequence of Chlaudia pneumoniae TW183 and comparison with
other Chlamydia strains based on whole genome sequence analysis.",
Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
--- SUBCELULAR LOCATION: Cell wall surface (elementary bodies)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Complete protecome, Membrane, Multigene family, Outer membrane, Signal.

1 24 Potential.

CHAIN 25 928 Probable outer membrane protein pmpll.

SEQUENCE 928 AA, 98904 MW, 788BCDD62C911402 CRC64;
                                                                                                                                                                                                 MEDLINE=20330349; PubMed=10871362; DOI=10.1093/nar/28.12.2311; Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K., Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.; "Comparison of whole genome sequences of Chlamydia pneumoniae J138 from Japan and CWL029 from USA.";
                                                                                                                                                                                                                                                                                                                                                                                                                     (Potential).
SIMILARITY: Belongs to the PMP outer membrane protein family.
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EMBL; AJ13034; CAB37072.1; -; Genomic_DNA.

EMBL; AZ011628; AD18593.1; -; Genomic_DNA.

EMBL; AZ002192; AAF38159.1; ALT_INIT; GENOMIC_DNA.

EMBL; AZ000008; BAA98658.1; -; Genomic_DNA.
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Conservative:
Mismatches:
Indels:
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NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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TIGR, CP0302; -.
TIGR, CP0302; -.
INCEPPO, IPR002546; Auto transpibeta.
INCEPPO; IPR001427; ChlampMP M.
INTERPO; IPR001368; Chlampdia PMP.
Pfam; PF02197; Autotransporter; 1.
Pfam; PF02415; Chlam PMP; 6.
Pfam; PF02415; Chlam PMP; 6.
TIGRPAMS; TIGR01376; POMP repeat; 5.
                                                                                                                                                                                                                                                                         Nucleic Acids Res. 28:2311-2314 (2000).
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Nucleic Acids Res. 28:1397-1406(2000)
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                      21 GlnSerLeuAlaAsn------GluGluLeuLeuSerProAspAspSerPheAsn
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	::: Db 648 AsgGluAsnArgLys Qy 2698 TACTTTGGATCA ::: Db 668 HisThrProLysAsg	Oy 2755 GATTATGTAGTGTGTGT :: Db 688 AspCysPheIleAls Qy 2815 CAACAAGCTTTA Db 708 SETHISTDXLeuGlr	D 728 AlaileGluiysPhe Oy 2875 TTTGGGAATCAGCAT Db 748 HisSerAspAsnArg		Oy 3055 GARCITITACAN Db 808 ABGERPHEPHGII OY 3115 CTATCAGTTCTGTT Db 828 LeuSerIleProVa	848 3235 868	OY 3355 AGATATGAGTATCG OY 3355 AGATATGAGTATCG OY 3415 TTC 3417 OY 3415 TTC 3417 Db 928 Phe 928 RESULT 24 PMP8_CHLPN
GTTTTCTTAGTAGCAATGTAGCTGCTGGGAAAGGGGGAGCTATTTATGCCAAAAAGCTC :::	1639 GATATTATCGATGGGAATCTTAAAAGAACCAAAGGAAATGCTGCCGATGTTAAT 1698 :::	147Introoyganganaliteannilectyseranistylysticinistics of the conformation of the	1870TACACAGGGATATTGTTTTGCT	GTTCTTCGTGAAAAGGCAAATTATCAGTGAATTCTCTCTAAGTCAGACAGTGGGAGTCTG	CCTGCCGCTAATCAGTTGATCACGCTTTCCAATCTGCATTTGTCTTTTGTTA	2182 GTCATTGGTAGCACAACTGCTGGTTCTGTTAGTGGGCCCTATCTTTTTGAGGAT 2241 1::	2302 CTGAAATTACAGTTAGGGACTAAGCCCCCAGCTAATGCCCCATCAGATTTGACTCTAGGG 2361 [:::::::: ::::::::::::::::::::
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CTTATATCTGTGATGCTTATCGCACCATCTCTGGTACTGAGACAACG 3234 GAGATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGTAGAGTCCGG 3414 ...-----TGTGGATCCTATTTGTTCGGAGATGCG 2853 rescriscagarrecagarraccaarrergarracrearcr 2994 AGGAAGGCGATCAAGCTCGGGCATTCAAGAGCGGACATCTCCTAAAT 3114 riggagigaagirigarcgargiictagiacacatcctaataaara; 3174 AAGAGACATGGACAACAGATGCCTTTCATTTAGCAAGACATGGAGTT 3294 CTATGTATGCTTCTCTAACAAGTAATATAGAAGTATATGGCCATGGA 3354 GGGATATCGGTATATTAGTGGGGGTTATTCCTTAGGAGCAAACTCC 2697 ATCGATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAA 2754 -----CGTGCTACGG 2874 ATATGAAAACCTCATATACATTTGCAGAGGGAGGGATGTTCGTTGG 2934 ATGAGTTGCGTCCTTTCGTGCAAGCTGAGTTTTCTTATGCCGATCAT 3054 AGATATACGATCTGCGCATTCAGCAATTCAAGCAAGTGTGGATGGG 2577 AGGATTATGGGTTTCTGGAGTTTCGAATTTCTTCTATCATGACCGC 2637 FICGITCCAATCATGCTTGCATAGGATCCGTTTATCTATCTACC 2814 ||||| ||||||| ::: alGlyAlaLysPheValGlnGlyAspIleGlyAspSerTyrThrTyr 847 ::::: ||| ||||||| hephevalSerAbspValTyrArgAsnAsnProGlnSerThrAlaThr 867 |||:::||| ||||||| rghetGluThhrHisTyrThrSerLeuProGluSerGluGlySerTrp 767 ||| ::::: ||| ysThrPheIleProGlnMetLysValGluMetValTyrValSerGln 807 luserseraspGlyArgGlyPheSerIleGlyArgLeuLeuAsn 827 :::::||| roAspSerTrpLys1leArgGlyGlyAsnLeuSerArgGlnAlaPhe 887 :::||| ||||||||| spaspieuPheThrPheAlaPheCysHisLeuPheAlaArgAspLys 687 ::: |||:::
heroArgGlulleProLeuAlaLeuAspValGlnValSerPheSer 747 :::||| laHisAsnAsnSerArgThrTyrGlyGlyThrLeuPhePheLysHis 707 :||| |||||||||| :::::|||||| ::: nGlyPheTrpValSerSerMetThrAsnPheLeuHisLysThrGly

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STRAIN=TW-183;
Geng M.M., Schuhmacher A., Muchldorfer I., Benach K.W., Schaefer K.P.,
Schneider S., Pohl T., Essig A., Marre R., Melchers K.;
"The genome sequence of Chlamydia pneumoniae TW183 and comparison with
other Chlamydia strains based on whole genome sequence analysis.";
Submitted (MAY-2002) to the EMBL/Genbank/DDBJ databases.
-I. SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
PMP8_CHLPN STANDARD; PRT; 930 AA.
092337, 09R866;
16-0CT-2001 (Rel. 40, Created)
16-0CT-2001 (Rel. 40, Last sequence update)
13-SEP-2005 (Rel. 48, Last annocation update)
13-SEP-2005 (Rel. 48, Last annocati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN=CWL029;
MEDLINE=99206606; PubMed=10192388; DOI=10.1038/7716;
Kalman B., Mitchell W.P., Marathe R., Lammel C.J., Fan J., Hyman R.W.,
Olinger L., Grimwood J., Davis R.W., Stephens R.S.,
"Comparative genomes of Chlamydia pneumoniae and C. trachomatis.";
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                                                                                                                                                                                                                                                                                                                STRAIN=CWL029 / VR1310,
MEDLINE=20007584; PubMed=10539856;
Christiansen G., Boesen T., Hjerno K., Daugaard L., Mygind P.,
Madeen A.S., Knudeen K., Falk E., Birkelund S.;
"Molecular biology of Chlamydia pneumoniae surface proteins and their
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вомшал
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,
White O., Hickey E.K., Peterson J.D., Utterback T.R., Berry K.J.,
Base S., Linher K.D., Weidman J.P., Khouri H.M., Craven B., Bowmar
Dodson R.J., Gwinn M.L., Dollson W.C., DeBoy R.T., Kolonay J.F.,
McClarty G., Salzberg S.L., Eisen J.A., Fraser C.M.,
"Genome sequences of Chlamydia trachomatis MoPn and Chlamydia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIMILARITY: Belongs to the PMP outer membrane protein family. SIMILARITY: Contains 1 autotransporter (TC 1.B.12) domain.
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                                                                                                                                                                                                                                                                                              NUCLEOTIDE SEQUENCE
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970 TTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAAATACTGCTCAAGCTGAT 1029
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     559 TITICIGCAGGAGAGITAACATTAAAAATCITGACAATTCTATTGCAGCTTTGCCTTTA 618
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                                                                                        InterPro; IPR006315; AutoCransporter.
InterPro; IPR001427; Chlamydia_PMP.
Ffam; PP03797; AutoCransporter; 1.
Ffam; PP03797; AutoCransporter; 1.
Ffam; PP03794; Chlam_PMP; 6.
Ffam; PP07548; Chlam_PMP; 1.
Ffam; PP07548; TIGR0144; autotrans barl; 1.
TIGRPAMs; TIGR0144; POMP_repeat; 6.
Complete proteome; Mombrane; Multigene family; Outer membrane; Signal.
SIGNAL.
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78 CysCysPheThrGluThrThrGlyAspLeuThrPheThrGlyLySGlyTyrSerPheSer
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T -> A (in strain AR39, strain J138 s
strain TW-183).
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PHCI-2DPAGB; 092393; -.
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177
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                                                        TIGR; CP0307;
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1010 GGGGGGCTTGTCAAGTAGTCACCACTTTCTCTGCTATGCCTAAGAGGCTCCTATTGCC 1010 GTGCTTCTCAAGTAGTACACCACTTTCTCTCTAAGAGGCTCCTAATTCCTCTAAGAGGTCTCTCTC				·
	1030 GGGGGAGCTTGTCAAGTAGTCACCAGTTTCTCTGCTATGGCTAACGAGGCTCCTATTGCC		155 ArgCysGlyAsnThrAlaAlaGlyLySGlyGlyAlalleAlaLeAlaAshSelySelySelySelySelySelySelySelySelySely	1834 TCTTCCAAACTTCTAAAAATTAACGATGGTGAAGGATACACAGGGGATATTGTTTTTGCT

	688 ATACGGACTTCTACAAATGGGGCAGCTCTAAGTAATAGCGCTGCTGATGACTGTTTACT 747	748 ATTGAGGGTTTTAAAGAATTATCCTTT	784 AATTCATTACTTGCCGTACTGCCTGCTAACTAATAAGGGTAGCCAGACTCCGACG 843 :::	944 ACAACATCTACACCGTCTAATGGTACTATTATTCTAAAACAGATCTTTTGTTACTCAAT 903	904 AATGAGAAGTTCTCATTGTAGTAATTTAGTCTCTGGAGATGGGGGGGG	964 AAGAGCTTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAA 1011 	1012 AATACTGCTCAAGCTGATGGGGGAGCTTGTCAAGTAGTCACCAGTTTCTCTGCT 1065	1066ATGGCTAACGAGGCTCCTATTGCCTTTGTAGCGAATGTTGCAGGAGTAAGAGG 1119 ::: ::: :::	1120 GGAGGGATTGCTGCTGTTCAGGATGGCAGGGAGGGTGTCATCTACTTCAACAGAA 1179	1180	1240 GTAGGAGGAGTTTACTCCTACGGGAACGTTGCTTTCCTGAATAATGGAAAACCTTG 1299	1300 TTTCTCAACAATGTTGCTTCTCCTGTTTACATT 1332	1333 GCTGCTAAGCAACCAACAAGTGGACAGGCTTCTAATACGAGTAATAATTACGGAGATGGA	1393	1408AAGAATGGTGCGCAAGCAGGATCCATTACTT	536	556 AlaGlnLysGluGluProSerProAspProCys 1474 TTCTTTAGTAGCAATGTAGCTGCTGGGAAAGGG
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2143 CCTCCTACCAATCCTCC 954	1017 SerSerAan 2416 AATACAGCAAATAATG 1033 AspSerSerGlyLys8V 2476 CCTGGGCCTGAGCGAG 1051 ProThralaAsnArgA 2536 ATACGATCTGCGCATT 111	2713 ATGTTTGGTCTAGCAT :::
8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8	8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6
IlePheAspAsnAsnSerSerThrValThrGlyGlyAlaileHisAlaLysLysValVal GTTGCTAACTGTGCCCTGTACAATTTTTAAGGAATATCGCTAATGATGGTGGAGCGGAT ::: ::	1722	1856
8 8 8 8 8 8 8 8	3 4 8 4 8 4 8 4 8 4 8 4 8 8 8 8 8 8 8 8	8

CTCCTACCAATCCTCCAGGGAAGATTCTCATCCTGCAGTCATTGGTAGG	STAGCACAACTGCT 2202 :::
03 GGTTCTGTTACAATTAGTGGGCCTATCTTTTTTGAGGATTTGGATGATAC.	22 98
2263 AGGTATGGTTGGGTTCTAATCAAAAATCAATGTCCTGAAATTACAGTT	TACAGTTAGGGACT 2322 :: 1eSer 996
2323 AAGCCCCCAGCTAATGCCCCATCAG	CATCAGATTIGACT 2355 - roGlnGlyAlaThr 1016
2356 CTAGGGAATGACATAGCTAAGTATGACTATCAAGGAAGCTGGAAGCTTGCGTV 	TTGCGTGGGATCCT 2415 :: alThrGluValLy8 1032
2416 AATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAAACTGGGTATAAT 24' ::::::::: 1033 AspSerSerGlyLysValSerPheGluMetLysTrpValSerThrGlyTyrIle 10'	AAACTGGGTATAAT 2475 erThrGlyTyrIle 1050
2476 CCTGGGCCTGAGCGAGTACTTCTTGGTTCCAAATAGTTTATGGGGATCCATTTTAGAT 	GATCCATTTAGAT 2535 ::: ysSeralaileAsp 1070
2536 ATACGATCTGCGCATTCAGCAATTCAAGCAAGTGTGGATGGCGCTCTTATTGTCGAGGA :::	109
2596 TTATGGGTTTCTGGAGTTTCGAATTTCTTCTATCATGACCGCGATGCTTTAGGTCAGGGA ::: :::	265
2656 TATCGGTATATTAGTGGGGGTTATTCCTTAGGAGCAAACTCCTACTTTGGATCATCG ::: :::	7
2713 ATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAAGATTATGTAGTGTGTGT	
73	AAGCTTTATGTGGA 2832 :: yeLeuValAsn 1169
2833 TCCTATTTGTTCGGA	
2848GATGCGTTTATCCGTGCTACGGGTTTGGGAATCAGCATATGAAAACC	AGCATATGAAAACC 2898
2899 TCATATACATTTGCAGAGGAGGGATGTTCGTTGGGATAATAACTGTCTGG ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: :::	GTCTGGCTGGAGAG 2958 ::: yevalalaGlyGlu 1227
2959 ATTGGAGCGGATTACCGATTGTGATTACTCCATCTAAGCTCTATTTGAATGAGTTG 301	
3016 CGTCCTTTCGTGCAAGCTGAGTTTTCTTAIGCCGATCATGAATCTTTT	10 10
3070 GAAGGCGATCAAGCTCGGGCATTCAAGAGCGGACATCTCCTAAATCTATCAGTTCCTGTT	TATCAGTTCCTGTT 3129 ::: ::: ::: /alSerLeuProLeu 1284

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                                                                                       TyrGlnProAspIleTyrArgAspAlaProLysSerLysValPheLeuProSerValHis 1322
                                                                                                                                                                                             STRAIN=AR39;
MEDLINE=20150255; PubMed=10684935; DOI=10.1093/nar/28.6.1397;
MEDLINE=20150255; PubMed=10684935; DOI=10.1093/nar/28.6.1397;
Mead T.D., Hickey E.K., Shen C., Gill S.R., Heidelberg J.F.,
White O., Hickey E.K., Peterson J.D., Utterback T.R., Berry K.J.,
Bass S., Linher K.D., Weldman J.F., Khouri H.M., Craven B., Bowman C.,
Dodson R.J., Gwinn M.L., Nelson W.C., DeBoy R.T., Kolonay J.F.,
MCCLarty G., Salzberg S.L., Eisen J.A., Fraser C.M.;
"Genome sequences of Chlamydia trachomatis MoPn and Chlamydia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN=TW-183;

Geng M.M., Schuhmacher A., Muehldorfer I., Bensch K.W., Schaefer K.P.,
Schudider S., Pohl T., Essig A., Marre R., Melchers K.;
"The genome sequence of Chlamydia pneumoniae TY183 and comparison with
other Chlamydia strains based on whole genome sequence analysis.";
Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                        PMP7 CHLPN STANDARD; PRT; 936 AA.

092898; 095842; 092504;
16-0C7-2001 (Rel. 40, Created)
13-8EP-2005 (Rel. 40, Last sequence update)
13-8EP-2005 (Rel. 48, Last annotation update)
Probable outer membrane protein pmp7 precursor (Polymorphic membrane protein 12).
Probable outer membrane protein pmp7 precursor (Polymorphic Chlambrane protein 2) (Outer membrane protein 12).
Name-pmp7; Synonyms-omp12; OrderedLocusNames-CPn0445, CP0308, CpB0462; Chlamydia pneumoniae (Chlamydophila pneumoniae).
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=CWL029;
MEDLINE=99206606; PubMed=10192388; DOI=10.1038/7716;
Kalman S., Mitchell W.P., Marathe R., Lammel C.J., Fan J., Hyman R.W.,
Olinger L., Grimwood J., Davis R.W., Stephens R.S.,
"Comparative genomes of Chlamydia pneumoniae and C. trachomatis.";
                3310 ATGTATGCTTCTCTAACAAGTAATATAGAAGTATATGGCCATGGAAGATATGAGTATCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=20330349; PubMed=10871362; DOI=10.1093/nar/28.12.2311; Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K., Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.; "Comparison of whole genome sequences of Chlamydia pneumoniae J138 from Japan and CWL029 from USA.";
                                                                                                                                                                                                                                                        3370 GATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGTAGAGTCCGGTTC 3417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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Nucleic Acids Res. 28:1397-1406(2000)
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STRAIN-CWL029 / VR1310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nat. Genet. 21:385-389(1999).
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This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EWED custation the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
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InterPro; IPR00515; Autotransporter.
InterPro; IPR01427; ChlamPMP M.
InterPro; IPR013487; ChlamPMP M.
InterPro; IPR013487; Chlamydia_PMP.
Pfam; PR03797; Autotransporter; 1.
Pfam; PR07485; Chlam PMP; 7.
Pfam; PR07548; ChlamPMP M; 1.
TIGRPAMS; TIGR01414; autotrans_barl; 1.
TIGRPAMS; TIGR01376; POMP_repeat; 5.
Complete protecome; Membrane; Multigene family; Outer membrane; Signal.
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                   Christiansen G., Boesen T., Hjerno K., Daugaard L., Mygind P.,
Madsen A.S., Knudsen K., Falk E., Birkelund S.,
"Molecular biology of Chlamydia pneumoniae surface proteins and their
                                                                                                                                                                                                                -!- SIMILARITY: Belongs to the PMP outer membrane protein family.
                                                                                                  role in immunopathogenicity.";
Am. Heart J. 138:S491-S495(1999).
-!- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Probable outer membrane protein
PTRHGFRHI -> BDNHRYRHN (in Ref.
PTRH (in Ref. 1, 4 and 5).
#; 3981DB3C950AP95A CRC64;
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Matches:
Conservative:
Mismatches:
Indels:
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EMBL; AE002193; AAF38165.1; -; Genomic_DNA.
EMBL; BA000008; BAA98653.1; -; Genomic_DNA.
EMBL; AS017158; AAP99393.1; -; Genomic_DNA.
EMBL; AJ133034; CAB37067.1; -; Genomic_DNA.
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MEDLINE=20007584; PubMed=10539856;
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PIR, C72078, C72078.
PIR, C86546, C86546.
PHCL-2DPAGE, Q92898; -.
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NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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16-0CT-2001 (Rel. 40, Last sequence update)
113-5RP-2005 (Rel. 48, Last annotation update)
13-5RP-2005 (Rel. 48, Last annotation update)
Probable outer membrane protein pmp9 precursor (Polymorphic membrane protein 9) (Outer membrane protein 10)
Name-spip9; Synonyma-empl0; OrderedLocusNames=CPn0447, CP0306, CpB0464; Chlamydia pneumoniae (Chlamydophila pneumoniae).
Becteria, Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN=CWL029 / VRI310;
MEDLINE=20007584 / VRI310;
MEDLINE=20007584 / PubMed=10539856;
Christiansen G., Boesen T., Hjerno K., Daugaard L., Mygind P.,
Madsen A.S., Knudsen K., Palk E., Birkelund S.;
"Molecular biology of Chlamydia pneumoniae surface proteins and their
role in immunopathogenicity.";
Am. Heart J. 138:8491-8495(1999).
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867 ArgArgAenProLysCysGlnThrSerLeuIleAlaSerAspAlaAenTrpMetAlaTyr
                     2794 GGATCCGTTTATCTATCTACCCAACAAGCTTTA-----TGTGGATCCTATTTGTTCGGA
                                                                                  730 LysklarhrArgAlaProTrpValLeuSerGluIleSerGlnIleIleProLeuSerPhe
                                                                                                                     2914 GAGGAGGGATGTTCGT----TGGGATAATAACTGTCTGGCTGGAGAATTGGAGCG
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This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
STRAIN—CWL029;
MEDLINE=99206606; PubMed=10192388; DOI=10.1038/7716;
Kalman S., Mitchell W.P., Marathe R., Lammel C.J., Fan J., Hyman R.W.,
Olinger L., Grimwood J., Davis R.W., Stephens R.S.; trachomatis.",
"Comparative genomes of Chlamydia pneumoniae and C. trachomatis.";
Nat. Genet. 21:385-389(1999).
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                                                                                                                                                                                                                                                                                                                                                                                           Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,
White O., Hickey B.K., Peterson J.D., Utterback T.R., Berry K.J.,
Bass S., Linher K.D., Weidman J.P., Khouri H.M., Craven B., Bowman C.,
Dodson R.J., Gwinn M.L., Nelson W.C., DeBoy R.T., Kolonay J.F.,
McClarty G., Salzberg S.L., Risen J.A., Fraser C.M.,
"Genome sequences of Chlamydia trachomatis MoPn and Chlamydia
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TIGRRAMB; TIGR01376; POMP_repeat; 6.
Complete proteome; Membrane; Multigene family; Outer membrane; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=20330349; PubMed=10871362; DOI=10.1093/nar/28.12.2311; Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K., Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.; Comparison of Whole genome sequences of Chlamydia pneumoniae J138 from Japan and CWL029 from USA."; Nucleic Acids Res. 28:2311-2314(2000).
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58910A8F04F12219 CRC64;
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-!- SIMILARITY: Belongs to the PMP outer membrane protein family.
-!- SIMILARITY: Contains 1 autotransporter (TC 1.B.12) domain.
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                                                                                                                                                                                                                                                                                                                                                           MEDLINE=20150255; PubMed=10684935; DOI=10.1093/nar/28.6.1397;
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NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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EMBL; AR001628; AAD18591.1; -; Genomic_DNA.
EMBL; AR002192; AAF38163.1; -; Genomic_DNA.
EMBL; BA000008; BAA986855.1; -; Genomic_DNA.
EMBL; AR017158; AAP98395.1; -; Genomic_DNA.
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InterPro; IPR006315; Autotransporter.
InterPro; IPR011427; ChlamPMP_M.
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InterPro; IPR006626; PbH1.
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PIR; E86546; E86546.
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Length:

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441 P. Q.	2 9	609 75 669 95 729 95	114 O) 789 D) D) 129 O) 649	134 909 154 969 97		
Matches: 313 Conservative: 161 Mismatches: 404 Indels: 404 Gaps: 39 (1-928) TITCTITCAATGATTCTAGCTTATTCTTGCTGCTCT			96 GINPheLeuLeuGiillileAspAlaGlyAlaAshCysThrPheThrAshThrAla 1 730 GCTGATGGACTGTTACTATTGAGGGTTTTAAAGAATTATCCTTTTCCAATTGCAATTGCAATTCA 7 115 AlaashLysLeuLeuSerPheSerGlyPheSerTyrLeuSerLeu 790 TTACTTGCCGTACTGCCTGCAGACTAATAAGGGTAGCCAGACTCCGACGACAACA 8		CTGAT CTGAT InLys TTGCC	
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                          2377 TATGGCTATCAAGGAAGCTGGAAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCT 2436
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TyrValValGlyAlaThrThrThrLeuAlaSerAspAsnLeuIleThrAlaAlaPheCys 688
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550 ProAlaAsnileHisileThrAspLeuAlaAlaAspProLeuGluLysAsnProIleHis 569
                                         2437 TATACTCTGAAAGCTACATGGACTAAAACTGGGTATAATCCTGGGCCTGAGCGAGTAGCT
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                                                                                                                                                                                                                                  Probable outer membrane protein pmp6 precursor (Polymorphic membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=J138;
MEDINE=20330349; PubMed=10871362; DOI=10.1093/nar/28.12.2311;
MEDINE=20330349; PubMed=10871362; DOI=10.1093/nar/28.12.2311;
Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K.,
Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.;
"Comparison of whole genome sequences of Chlamydia pneumoniae J138
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Nucleic Acids Res. 28:2311-2314(2000).
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-!- SIMILARITY: Belongs to the PMP outer membrane protein family.
-!- SIMILARITY: Contains 1 autotransporter (TC 1.B.12) domain.
                                                                                                                                                                                                                                                                                             Chlamydia pneumoniae (Chlamydophila pneumoniae).
Bacteria, Chlamydiae, Chlamydiales, Chlamydiaceae, Chlamydophila.
NCBI_TaxID=83558;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=RR39;
MEDLINE=20150255; PubMed=10684935; DOI=10.1093/nar/28.6.1397;
MEDLINE=20150255; PubMed=10684935; DOI=10.1093/nar/28.6.1397;
Mad T.D., Brunham R.C., Shen C., dill S.R., Heidelberg J.F.,
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"Genome sequences of Chlamydia trachomatis MoPn and Chlamydia
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                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=99206606; PubMed=10192388; DOI=10.1038/7716;
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16-0CT-2001 (Rel. 40, Created)
16-0CT-2001 (Rel. 40, Last sequence update)
13-SEP-2005 (Rel. 48, Last annotation update)
                                                                                                                                                                                                                                                                           Name=pmp6; OrderedLocusNames=CPn0444, CP0309,
                                                                                                                          PRT; 1276 AA.
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EMBL; AB00193; AR788166.1; -; Genomic_DNA.
EMBL; AR000008; BAA98652.1; -; Genomic_DNA.
EMBL; AE017158; AAP98391.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nucleic Acids Res. 28:1397-1406(2000).
                                                                                                                               STANDARD;
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B86546; B86546.
C81591; C81591.
  CGGTTC 3417
                                         GluPhe 928
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                                                                                 RESULT 28
PMP6_CHLPN
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-----AAGAATGGTGCG 1419
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| CysAsnileSerGluSerAspileAlaThrLysSerLeuThrLeuThrGluAsnGluSer 579
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384 LysThr---GlyGlyAlaLeuTyrSerLysGlyAsnSerSerLeuThrGlyAsnThrAsn 402
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                                                                                                                                                                                        ThrasplysThrGlyLeualaIleSerGlnasnGlnGluMetSerPheThrSerAsnThr 324
                                                                                                                AlaGlnAlaAsnAsnProGluGlyCysGlyGlyAlaIleCysCysTyrLeuAlaThrAla 304
                                                                                                                                                                                                               CTTTGTGTCTTCCAAGAAATACTGCTCAAGCTGAT---GGGGGAGCTTGTCAAGTAGTC
                                                                                                                                                                                                                                                    1051 ACC---AGTITCTCTGCTATGGCTAACGAGGCTCCTATTGCTTGTAGCGAATGTTGCA
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                                                                            LeualaLeuThrGlyAsnThrGlnValLeuPheGlnGluAsnLysThrThrGlySerAla
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                                                                                                                                                                                                                                                                                                                                                                     1147 CAGCAGGAGTG------TCATCATCTACTTCAACA-----
                                                                                                                                                                                                                                                                                                                                                                                ----AAAACAGATCTTTTGTTACTCAATAATGAGAAGTTCTCATTCTATAGTAATTTA
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  AspLysGlyGlyileTyrSerLysGluLysAspSerThrLeuAspAlaAsnThrGly
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185 ThrAlaAlaLeuLeuAspGlnAsnThrSerThrLysAsnGlyGlyAlaLeuCysSerThr 204
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1510 620	GCDATITATGCCAAAAGCTCTCGGTTGCTAACTGTGGCCCCTGTACAATTTTTAAGGAAT 1569
1570	ATCGCTAATGATGGAGCGATTTATTAGGAGAATCTGGAGAGGCTCAGTTTATCTGCT 1629
1630	GAITATGGAGATTATTTCGATGGGAATCTTAAAAGAACGAAGGAATGCTGCC
660	
1690	GATGTTAATGGCGTAACTGTGTCCTCACAAGCCATTTCGATGGGATCGGGGAAAATA 1749
1750	ACGACATTAAGAGCTAAAGCAGGCATCAGATTCTCTTTAATGATCCCATCGAGATG
1807	
710	::: AlaProAlaSerGlyGlyThrIleGluGluLeuValIleAsnProValValLysAlaIle
1816	AATAACCAGCGGGGGGGGTCTTCCAAACTTTAAC
730	ValProProProGlnP
1858	GATGGTGAAGGATACACAGGGATATTGTTTTT
1891	GCTANTGGAACCAGTACTTTGTACCAAAATGTTACGATAGAGGA
770	
1939	AGGATTGTTCTTCGTGAAAAGGCAAAATTATCAGTGAATTCTCTAAGTCAGACAGGTGGG 1998 ::: :::
1999	AGTCTGTATATGGAAGCTGGGAGTACATGGGATTTTGTAACTCCACAACCACCACAA
810	::::: ::
2056	CAGCCTCCTGCCGCTAATCAGTTGATCACGCTTTCCAATCTGCATTTGTCTCTTTCTT
2116	TIGTTAGCAAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGGGGAAGATTCTCAT
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2176 852	CCTGCAGTCATTGGTACACTGGTTCTGTTACAATTAGTGGGCCTATCTTTTT 2235
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907	ProlleProSerSerMetAlaAlaProAsplyrdlylyrdlyBer 922

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1555 CAATTITIAAGGAATATCGCTAAT------GATGGTGGAGCGATTIATTA 1599
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                                                                                                                                                                                                                                                                          CTAAGTAATAGGGCTGCTGATGGACTGTTTACTATTGAGGGTTTTTAAAGAATTATCCTTT 774
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199 SerAspGluAsnLeuGluAsnAsnAspGlnMetLeuPheSerGluAsnThrSer
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                                                                          TCCAATTGCAATTCATTACTTGCCGTACTGCCTGCTGCAACGACTAATAAGGGTAGCCAG
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168 IleAsnCysLysSerLeuThrLeuLysAsn---SerSerValCys-------
------ProLeuThrLysSerCysPheThrGluThrThrGluAsnLeuThrPhe
                                                TTAGGGAGAGACACTCGTTGACTTTCGAGAACATACGGACTTCTACAAATGGGGCAGCT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-22569155; PubMed=12682364; DOI=10.1093/nar/gkg321; Read T.D., Myers G.S.A., Brunham R.C., Nelson W.C., Paulsen I.T., Heidelberg J.P., Holtzapple R.K., Khouri H.M., Federova N.B., Carty H.A., Umayam L.A., Haft D.H., Peterson J.D., Beanan M.J., White O., Salzberg S.L., Hsia R.-C., McClarty G., Rank R.G., "Genome sequence of Chlamydophila caviae (Chlamydia psittaci GPIC): examining the role of niche-specific genes in the evolution of the Chlamydiaceae."
                                                                                                                                                                                                                                                                                                                                                               Chlamydophila caviae.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila
NCBI_TaxID=83557;
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01-JUN-2003 (TrEMBLrel. 24, Liast sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Polymorphic outer membrane protein G family
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Matches:
Conservative:
Mismatches:
Indels:
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EMBL; AE016995; AAP05034.1; -; Genomic_DNA.
TIGR; CCA00283; -.
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InterPro; IPR005315; Autotransporter.
InterPro; IPR005546; Auto_transptbeta.
InterPro; IPR011427; ChlamyPMP M.
InterPro; IPR03368; Chlamydia_PMP.
Pfam; PP03797; Autotransporter; 1.
Pfam; PP07548; ChlamPMP M; 1.
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TIGRFAMS; TIGR01376; POMP_repeat; 4.
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OrderedLocusNames=CCA00283;
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CAAGCCATTTCGATGGGATCGGGAAAAAAAACGACATTAAGAGCTAAAAGCAGGGCAT 1776
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                                                                                                                                                                                                                                                     366 PheLysGlnProLeuThrValGlySerGlySerPheValLeuLysAsnGlyValThrVal 385
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|SerValAsnGlyAlaAspTyrGlnArgGlyLeuTrpAlaSerGlyLeuAlaAsnPheLeu 581
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               GGTAGATCTAAAGATTATGTAGTGTGTCGTTCCAATCATCATGCTTGCATAGGATCCGTT
                                                                                                                    -------ATCGTGCTAGCTAC
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OFRETI CHLPN PRELIMINARY;

OTRIZO (TREMBLEE] 13, Created)

OTRIZO (TREMBLEE] 15, Last sequence update)

13-SEP-2005 (TREMBLEE] 11, Last annotation update)

13-SEP-2005 (TREMBLEE] 11, Last annotation update)

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Chlamydia pneumoniae (Chlamydophila pneumoniae).

Saferiai Chlamydiae; Chlamydiae; Chlamydiaceae; Chlamydophila.
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                                                                                2167 GATTCTCATCCTGCAGTCATTGGTAGC---ACAACTGCTGGTTCTGTTACAATTAGTGGG
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                                                                                                                          TCTGCTGATTATGGGGGTATTATTTTCGATGGGAATCTTAAAAGAACAGCCAAAGAGAAT
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                                                                                                                                                                                                                                                                           1864 GAAGGA-----TACACACAGGGATATTGTTTTGCT-------
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 GCCAAAAAGCTCTCGGTTGCTAACTGTGGCCCTGTACAATTTTTAAGGAATATCGCTAAT
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144 VallysLysLeuGluLeuAlaSerGlyGlyLeuThrLeuPheSerArgAsnSerValAsn
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"The genome sequence of Chlamydia pneumoniae TW183 and comparison with other Chlamydia strains based on whole genome sequence analysis.";
Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; BA000008; BA998226.1; -; Genomic_DNA.
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Matches:
Conservative:
Mismatches:
Indels:
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GO; GO:0019867; C:outer membrane; IEA.
InterPro; IPR006315; Auto transpoter.
InterPro; IPR001427; ChlamPMP_M.
InterPro; IPR001427; ChlamPMP_M.
InterPro; IPR0013427; ChlamPMP_M.
InterPro; IPR001348; Chlamydia_PMP.
Pfam; PF03797; Autotransporter; 1.
Pfam; PF03797; Autotransporter; 1.
Pfam; PF03415; ChlamPMP; 6.
ITGRPAMS; TIGR01414; autotrans_barl; 1.
TIGRPAMS; TIGR01414; autotrans_barl; 1.
TIGRPAMS; TIGR01376; POMP_repeat; 6.
SEQUENCE 772 AA; 82931 MW; 484FC55D635
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| AspTyrPheValAlaLysAsnGlnGlyThrValTyrGlyGlyThrLeuTyr-TyrGlnHi
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558 sAsnGluThrTyrIleSerLeuProCysLysLeuArgProCysSerLeuSerTyrValPr
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Q929G5; Q9K19; Q9Z4H9;

16-OCT-2001 (Rel. 40, Created)

16-OCT-2001 (Rel. 40, Last sequence update)

10-MAY-2005 (Rel. 47, Last annotation update)

Probable outer membrane protein pmpi precursor (Polymorphic membrane protein 1) (Outer membrane protein 6).

Name=pmp1; Synonyms=omp6; OrderedLocusNames=CPn0005, CP0770, CpB0006;
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This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bilinformatics and the BWHL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
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Geng M.M., Schubmacher A., Muehldorfer I., Bensch K.W., Schaefer K.P.,
Schneider S., Pohl T., Essig A., Marre R., Melchers K.;
The genome sequence of Chlamydia pneumoniae TW183 and comparison with
other Chlamydia strains based on whole genome sequence analysis.";
Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
--- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDIJNE=99206606; PubMed=10192388; DOI=10.1038/7716;
Kalman S., Mitchell W.P., Marathe R., Lammel C.J., Fan J., Hyman R.W.,
Olinger L., Grimwood J., Davis R.W., Stephens R.S.;
"Comparative genomes of Chlamydia pneumoniae and C. trachomatis.";
Nat. Genet. 21:385-389(1999)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=20330349; PubMed=10871362; DOI=10.1093/nar/28.12.2311; Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K., Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.; "Comparison of whole genome sequences of Chlamydia pneumoniae J138 from Japan and CWL029 from USA.";
(Chlamydophila pneumoniae).
Chlamydiales; Chlamydiaceae; Chlamydophila.
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                                                                                                                                                                                                                                                                          Christiansen G., Boesen T., Hjerno K., Daugaard L., Mygind P.,
Madsen A.S., Knudsen K., Falk B., Birkelund S.;
"Molecular biology of Chlamydia pneumoniae surface proteins and
                                                                                                                                                                                                                                                                                                                                                                                                                                    Am. Heart J. 138:8491-8495(1999).
[2]
NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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EMBL; AR001585; AAD18163.1; -; Genomic DNA.
EMBL; AR002237; AAP38570.1; -; Genomic DNA.
EMBL; BA000008; BAA98215.1; -; Genomic DNA.
EMBL; AR017157; AAP97939.1; -; Genomic DNA.
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Nucleic Acids Res. 28:1397-1406(2000).
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InterPro; IPR011427; ChlamPMP_M.
InterPro; IPR003368; ChlamPdia_PMP.
Pfam, PP03797; Autotransporter; 1.
Pfam; PP02415; Chlam_PMP; 7.
                                                                                                                                                                                                                                  MEDLINE=20007584; PubMed=10539856;
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                                                                                                                                                                                                                                                                                                                                                                                               role in immunopathogenicity
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    Chlamydia pneumoniae (
Bacteria, Chlamydiae;
NCBI_TaxID=83558;
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Ov 1134 TGTTCAGGA		Db 212	Qy 1194 TTTTCCAG	Db 213 -PheAlaGlı	Qy 1254 TTACTCCTA(Db 226 uTyrSerAsj	Qy 1314 TGCTTCTCC	Db 246 uAlaLeuTh	OV 1374 TAATAATTA	253	-	262	Qy 1476 CITTAGTAG	Db 282 lPheGluAr	Qy 1536 TGCTAACTG	Db 302 eSerSerGl	Qy 1581 TGGTGGAG	Db 322 uGlyGlyAl	Oy 1641 TATTATTTT	Db 342 rlleThrPh	Qy 1701 CGTAACTGT		ન	370	Qy 1821 CCAGCCAG		1872	404	-1	424	Dy 1962 AAAATIATU ::::::: 0b 444 aGluValTE	2019	464	Qy 2079 GATCACGCT	Db 473 pileAlail
Š		26 Potential.	P - V L (in Ref. 1).		606 D -> N (in Ref. 1). 836 S -> P (in Ref. 5).	; 100458 MW;	Length:	973.00 Matches: 306 41.5% Conservative: 148	Mismatches:	Gaps:	35) x PMP1_CHLPN (1-922)	TTGTGTGATGCAAACGTCTTTCCATTCTTTCAATGAT 419	lypheProLeuValPheSerPheThrLeuLeuSerValPheAsp 21	GGGGGGATATGCAGCAGAAATCATGGTTCC	ThrserLeu-SerAlaThrThrIleSerThrserLeu-LeuThrPr 33	TCAAGGAATTTAGGATGGGGAGACGTTAACTGTATCATTTCCCTATACTGTTATAGGAGA 539		TCCGAGTGGGACTACTGTTTTTCTGCAGGAGGTTAACATTAAAAAATCTTGAAATIC :::		TATIGCAGCITITGCCTITAAGITGTITIGGGAACTIATTAGGAGTITITACIGTITITAGG 659		 rLysGluGlyAlaVa			THE CASA THE CASA THE CHARCE CHARCE A CONTRACT AND A GOOT A GCC. 833		GACTOCGACGACACATCTACACCGTCTAATGGTACTATTTATTCTAAAACAGATCTTTT 893	::: : GlyapileLysGluGlnGlyCysLeuTyrSerLysAsnAlaLeuMe 148	Į.	:	TATAGATGCTAAGAGGTTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAAA 1013	alleSerGlyAlaAsnValThrileValGlyAsnTyrAspSerValSerPheTyrGlnAs 188			CGAGGCTCCTATTGCTTTGTAGCGAATGTTGCAGGGGGGGG
	TIGRFAMB; TIGR01376; Complete proteome; M	SIGNAL			CONFLICT 606		Alignment Scores: Pred. No.:	e: ent Similarity:	Best Local Similarity	y maccn:	US-10-701-844-1 (1-4435)	375 TTGTGTC	5 LeuCysGly-	420 TCTAGC	22 ThrSerl				51 -GlnAl	600 TATTGC					ASTORT ACC					: 148 tLeuLe		168 alleSe	1014 TACTGC		1074 CGAGGC
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1254 TTA : 226 uTy	TTACTCCTACGGGAACGTTGCTTTCTGAATAATGGAAAAACCTTGTTTCTCAACAATGT 1313
1314 TGC 246 uA]	TGCTTCTCCTGTTTACATTGCTGCTAAGCAACCAACAAGTGGACAGGCTTCTAATACGAG 1373
1374 TAP	TAATAATTACGGAGATGGAGGGGGTATCTTCTGTAAGAATGGTGCGCAAGCAGGATCCAA 1433
1434 TAP 262 OT	TAACTCTGGATCA
1476 CTJ 282 lP	CTTTAGTAGCAATGTAGCTGGTGGAAAGGGGGGGGTATTTATGCCAAAAAGCTCTCGGT 1535
1536 TGC	TGCTAACTGTGGCCCTGTACAATTTTTAAGGAATATCGCTAATGA 1580 ::::::
1581 TGC 322 uG	rggrggagcgarttarttaggagaarctggagagctcagtttarctgctgattatggaga 1640 ::: uGlyGlyalailealaileabpthrGlyGlyGluileSerLeuSeralaGluLygGlyTh 342
1641 TA	TATTATTTTCGATGGGAATCTTAAAAGAACAGCCAAAGAGAATGCTGCCGATGTTAATGG 1700
1701 CG	CGTAACTGTGTCCTCACAAGCCATTTCGATGGGATCGGGAGGAAAATAACGACATTAAG 1760
1761 AG : 370 nA	AGCTAAAGCAGGGCATCAGATTCTCTTTAATGATCCCATCGAGATGGCAAACGGAAATAA 1820
1821 CC	CCAGCCAGCGCAGTCTTCCAAACTTAAAATTAACGATGGTGAAGGATA 1871
1872 CA 404 rT	CACAGGGGATATTGTTTTGCT
1902 CA 424 BS	CAGTACTTTGTACCAAAATGTTACGATAGAGGAAGGATTGTTCTTCGTGAAAAGGC 1961 ::: ::: 88erThrIleProGlnAbnUalAbnLeuSerAlaGlyTyrLeuValIleLyBGluGlyAl 444
1962 AA : 444 aG	AAAATTATCAGTGAATTCTCTAAGTCAGACAGGTGGGAGTCTGTATATGGAAGCTGG 2018 ::::::: ::: :
2019 GA : 464 yT	GAGTACATGGGATTTTGTAACTCCACAACCACCACAACGCCTCCTGCCGCTAATCAGTT 2078
2079 GA 473 pI	GATCACGCTTTCCAATCTGCATTTGTCTTTTTTTTAGCAAACAATGCAGTTAC 2138
. 2139 GA	GAATCCTCCTACCAATCCTCCAGGGGAAATTCTCATCCTGCAGTCATTGGTAGCACAAC 2198

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310 pGlyArgArgPheSerAsnGlySerLeuThrSerIleSerValProLeuGlyIleArgPh 830
                                                                                                                                        890 sPheAsnAspTyrThrGluLeuCysArgGlySerIleGluCysArgProHisAlaAr
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                                      TGATCGATGTTCTAGTACACATCCTAATAAATATAGCTTTATGGCGGCTTATATCTGTGA
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IIGRFAMs; TIGR01376; POMP_repeat; 3.
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InterPro; IPR001368; Chlamydia PMP.
Pfam; PF03797; Autotransporter; 1.
Pfam; PF07548; ChlamPMP M; 1.
Pfam; PF02415; Chlam_PMP; 4.
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OrderedLocusNames=CCA00624;
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                                                      TGCTGGT------TCTGTTACAATTAGTGGGCCTATCTTT---------
                                                                                        ralaAsnLysGlnIleSerValThrAspSerIleGluLeuIleSerProThrGlyAsnAl
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Chlamydophila caviae. Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila. STRAIN=GPIC; MEDLINE=22569155; PubMed=12682364; DOI=10.1093/nar/gkg321; 841 AA; 90411 MW; 21A9ED16E0D7C65D CRC64 841 132 347 30 01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Polymorphic outer membrane protein G family 922

		284 AspGlyPheGlyValPhePheTyrAspProlleAlaAsnAsn 297 1828 GCGCAGTCTCCCAACTTCTRAAATTAACGATGGTGAAGGATACACAGGG 1878 :::	Argilevalfresetilysiumysheiming.chsporingscommergeneral Agcagractrigaccaaaargrracgaragaagdaaggarrgrictricgrgaaaag 	1960 GCAAAATTATCAGTGAATTCTCTAAGTCCAGACAGGTGGGGGTTCTGTATATGAAGCTGGG 2019 1::	2080 ATCACGCTTTCCAATCTGCATTTGTTCTTTTGTTAGCAAACAATGCAGTTACG 2139 :::	GCTGGTTTACAATTAGTGGGCCTATCTTTTTGAGGATTTGGATGATACAGCTTAT	435 GlutyrProValPheSerThrThrArgGluPheProSerIleIleGluAlaLyBAlaABH 454 2317 GGGACTAAGCCCCATCAGATTTGACTCTAGGGAATGAGATGCCTAAG 2376 455 GlyThrGlyThrProThrIleProThrThrHisLeuThrAspHisAlaProAlaAlaHis 474 2377 TATGGCTATCAAGGAAGCTGGAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCT 2436 475 TATGGCTATCAAGGAAGCTGGAAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCT 2436 475 TYTGLYYTGLAYLCTTGAAGATAATTTTTTAAAAATGGTCCT 2436 2437 TATACTCTGAAAGCTACATGGACTAAAAACTGGGTATAATCCTGGGCCTGAGCGAGTAGCT 2496 2437 TATACTCTGAAAAGCTACAAAAAACTGGGTATAATCCTGGGCCTGAGCGAGTAGCT 2496
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382 ATGCAAACGTCTTTCCATAAGTTCTTTCAATGATTCTAGCTTATTCTTGCTGCTCT 441		706 GGGGCGCTCTAAGTAATAGGACTGTTTACTATTTAAGAAA 705 706 GGGGCGCTCTTAGTAATAAGAAA 705 105 ProhlaalaileGluvalSerAlaasnAspLysThrLeuSerIleSerGlyPheSerLeu 124 706 TTATCCTTTTCCAATTGCAATTCATTACTTGCCGTACTGCCTGC	137 137 886 GATCTTTGTTACTCAATAATGAGAAGTTCTCTATAGTAATTTAGTCTCTGGAGAT 945	GGGGGAGCTATAGATGCTAAGAGCTTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTC	146	1186 GTAGTAAGTTTTTCCAGAAATACTGCGGTAGAGTTTGATGGGAACGTAGCCCGAGTAGGA 1245 1186 GTAGTAAGTTTTTCCAGAAATACTGCGGTAGAGTTTGATGGGAACGTAGCCCGAGTAGGA 1245 1246 GTAGTAACTTTTCCAGAAAAACCTTGTTCCTGAATAATAGAAAAACCTTGTTTCCT 1305	
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MEDLINE=96406378; PubMed=8810511; DOI=10.1016/0378-1097(96)00281-9; Longbottom D., Russell M., Jones G.E., Lainson F.A., Herring A.J.; "Identification of a multigene family coding for the 90 kDa proteins of the ovine abortion subtype of Chlamydia psittaci."; PEMS Microbiol. Lett. 142:277-281(1996).
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                                                                                                                                  Chlamydophila abortus.
Bacteria, Chlamydiae, Chlamydiales, Chlamydiaceae, Chlamydophila.
                   01-FEB-1997 (TrEMBLrel. 02, Created)
01.FEB-1997 (TrEMBLrel. 02, Last sequence update)
13.5EP-1997 (TrEMBLrel. 31, Last annotation update)
POMP91A (Polymorphic outer membrane protein)
Name-pmp13G; Synonyms=pomp91A; OrderedLocusNames=CAB281;
                                                                                                                                                                                                                                                                                                                                                                                                                                              NUCLEOTIDE SEQUENCE.
STRAIN=S26/3;
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Best Local Similarity:
                                                                                                                                                                                     NCBI_TaxID=83555;
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                                           2497 TCTTTGGTTCCAAATAGTTTATGGGGATCCATTTTAGATATACGATCTGCGCATTCAGCA 2556
                                                                                                                                                                                                                                                                                                                             TAITCCTTAGGAGCAAACTCC---TACTTTGGATCATCGATGTTTGGTCTAGCATTTACC 2733
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                                                                                                                                                                  :::
MetAspIleSerValAsnGlyAlaAspTyrGlnArgGlyLeuTrpAlaSerGlyLeuAla
                                                                        514 ProLeuValProAsnThrLeuTrpGlySerPheSerAspValArgAlalleGlnAsnLeu
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AsnPheLeuGlnLysSerGlyThrGluThrLysArgLysPheArgHisHisSerAlaGly
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TyrValLeuGlyAlaTyrAlaLy8ThrLeuSerAspAspValPheSerAlaAlaPheCys
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                                                                                                                                                                                                                                 AATTTCTTCTTATCATGACCGCGATGCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGT
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LeuGlyAlaThrValProlleGluSerProTyrSerSerLeuPhe---AspMetTyrSer
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             PubMed=15837807; DOI=10.1101/gr.364805;
PubMed=15837807; DOI=10.1101/gr.364805;
Thomson N.R., Yaata C., Bell K., Holden M.T.G., Bentley S.D.,
Thomson N.R., Vataraga A.-M., Harris B., Doggett J.,
Ormond D., Mungall K., Clarke K., Feltwell T., Hance Z., Sanders M.,
Quail M.A., Price C., Barrell B.G., Parkhill J., Longbottom D.;
"The Chlamydophila abortus genome sequence reveals an array of
Variable proteins that contribute to interspecies variation.";
Genome Res. 15:629-640(2005).
RMBL, U65942; AACIS2111; -1, Genomic DNA.
GO; GO:0019867; C:Outer membrane; IRA.
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Matches:
Conservative:
Mismatches:
Indels:
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SEQUENCE 847 AA; 90695 MW; 754C958E7F11179E
NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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IIGRFAMs; TIGR01376; POMP_repeat; 3.
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InterPro; IPRO03368; Chlamydla PMP.
Pfam; PF03797; Autotransporter; 1.
Pfam; PF02415; Chlam PMP; 3.
Pfam; PF07548; ChlamPMP M; 1.
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P71132 CHLAB ID P71132_CHLAB PRELIMINARY;

	664 GGACACTCGTTGACTTTCGAGAACATACGGACTTCTACAAATGGGGCAGCTCTAAGT 720
	114 ValSerGlyThrAsnLysThrLeuAspIleSerGlyPheSerLeuPheSerCysAlaTyr 133
	781 IGCAATTCATTACTTGCCGTACTGCTGCTGCAACGACTAATAAGGGTAGCCAGACTCCG 840
	134 Cy8 134
	841 ACGACAACATCTACACCGTCTAATGGTACTATTATTCTAAAACAGATCTTTTGTTACTC 900
	135ProProGlyAlaThrGlyTyr
	901 AATAATGAGAAGTICTCATICTATAGIAATITAGICTCTGGAGATGGGGGAGCTATAGAT 960
QQ	141 141
ò	961 GCTAAGAGCTTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAAATACTGCT 1020
qq	141 141
ò	1021 CAAGCTGATGGGGGAGCTTGTCAAGTAGTCACCAGTTTCTCTGCTATGGCTAACGAGGCT 1080
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ò	1081 CCTATTGCCTTTGTAGCGAATGTTGCAGGAGTAAGAGGGGGAGGGA
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ò	1141 GATGGGCAGCAGGAGTGTCATCATCTACTTCAACAGAAGATCCAGTAGTAAGTTTTTCC 1200
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ò	1201 AGAAATACTGCGGTAGAGTTTGATGGGAACGTAGCCCGAGTAGGAGGAGGAGTTTACTCC 1260
qa	142GlyalaileLyBAla 146
È	1261 TACGGGAACGTTGCTTTCCTGAATAATGGAAAACCTTGTTTCTCAACAATGTTGCTTCT 1320
	147 ValGlyAsnThrThrIleLysAspAsnSerSerLeuValPheHisLysAsnCysSerThr 166
	1321 CCTGTTTACATTGCTGCTAAGCAACCAACAAGTGGACAGGCTTCTAATACGAGTAATAT 1380
	166 166
ò	AATGGTGCGCAAGC
qq	167GlyGluGlyGlyAlaIleGlnCygLysAlaSerSerSerGlu 180
È	1441 GGATCAGTTTCCTTTGATGGAGGGAGTAGTTTTCTTTAGTAGCAATGTAGCTGCTGGG 1500
qq	181 AlaGluLeuLysIleGluAsnAsnGlnAsnLeuValPheAlaGluAsnSerSerSerSer 200
ò	1501 AAAGGGGAGCTATTTATGCCAAAAAGCTCTCGGTTGCTAACTGTGGCCCTGTACAATTT 1560
qq	201 SerdiydiyilaileTyrAlaAspLysLeuThrIleValSerGlyGlyProThrLeuPhe 220
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È	1609GARGAGCTCAGITTATCTGCTGAITATGAGAATAITATTTTCGAGGAATCTTAAA 1665
q _Q	241 GlyGluCysSerLeuThrAlaAspLeuGlyAspileThrPheAspGlyAsn 258
È	17
QQ	259 LysllelleLysThrAsnGlyGlySerProThrValThrArgAsnSerile 275

2278 GGTTCTAATCAAAAATCAATGTCCTGAAATTACAGTTAGGG-------ACT 2322 2323 AAGCCCCCAGCTAATGCCCCCATCAGATTTGACTCTAGGGAATGAGATGCCT----AAG 2376 2437 TATACTCTGAAAGCTACATGGACTAAAACTGGGGTATAATCCTGGGCCTGAGCGAGTAGCT 2496 2557 ATTCAAGCAAGTGTGGATGGGCGCTCTTATTGTCGAGGATTATGGGTTTCTGGAGTTTCG 2616 2617 AATTICTICTATCATGACCGCGATGCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGT 2676 2677 TATTCCTTAGGAGCAAACTCCTACTTTGGATCA---TCGATGTTTGGTCTAGCATTTACC 2733 2158 CCAGCGCAAGATTCTCATCCTGCAGTCATTGGTAGCACAACTGCTGGTTCTGTTACAATT 2217 2218 AGTGGGCCTATCTTTTGAGGATTTGGATGATACAGCTTATGATAGGTATGATTGGCTA 2277 2377 TATGGCTATCAAGGAAGCTGGAAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCT 2436 2734 GAAGTATTTGGTAGATCTAAAGATTATGTAGTGTGTCGTTCCAATCATCATGCTTGCATA 2793 1726 TCGATGGGATCGGGAGGGAAATAACGACATTAAGAGCTAAAGCAGGGCATCAGATTCTC 1785 2097 2098 CATTIGICICITICITICITIGITAGCAAACAAIGCAGTTACGAAICCICCTACCAAICCT 2157 1891 -----TGTAATGGAAGCAGTACTTTGTACCAAAAT 1920 1981 CTAAGTCAGACA---GGTGGGAGTCTGTATATGGAAGCTGGGAGTACATGGATTTTGTA 2037 468 LysProThrThrAsn---------LeuGluAsnTyrThrProProThrHis 481 308 LeuasnileasnLysGlnaspThrValaspTyrThrGlyLysileValPheSerGlyGlu 327 328 ArgLeuSerAspGluGluLysLysValAlaAlaAshLeuLysSerAspPheLysGlnPro 347 1846 CTAAAAATTAAC-----GATGGTGAAGGATACACAGGGGATATTGTTTT-----368 PheThrdlnThrdluGlyAlaThrValValMetAspLeuGlyThrThrLeu------2038 ACTCCACAACACACAACAGCCTCCTGCCGCTAATCAGTTGATCACGCTTTCCAATCTG :::::::::::::::||||||| 400 AsplieAsnValAlaSerLeuGlyGlyGlyGlyValAlaProAspPro-------416

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"Molecular cloning and characterization of the genes coding for the highly immunogenic cluster of 90-kilodalton envelope proteins from the Chlamydia psittaci subtype that causes abortion in sheep.";
Infect. Immun. 66:1317-1324(1998).
                                                                                                                                                                      GlySerIleTyrTyrGlnHisIleSerTyrTrpAsnThrTrpAsnThrLeuLeuGlnAsn
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Meme-pmp17G, Synonyms-pomp90B, OrderedLocusNames=CAB598,
Chlamydophila abortus
Bacteria, Chlamydiae, Chlamydiales, Chlamydophila.
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P77792 CHLAB PRELIMINARY;
P77792 CSL555;
01-FEB-1997 (TrEMBLrel. 02, Created)
01-FEB-1997 (TrEMBLrel. 02, Last sequence update)
01-FEB-1997 (TrEMBLrel. 02, Last annotation update)
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                    Longbottom D., Russell M., Jones G.E., Lainson F.A., Herring A.J.; "Identification of a multigene family coding for the 90 kDa proteins of the ovine abortion subtype of Chlamydla psittaci."; PEMS Microbiol. Lett. 142:277-281 (1996).
MEDLINE=96406378; PubMed=8810511; DOI=10.1016/0378-1097(96)00281-9;
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Mismatches:
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                                                                                                           [3]NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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InterPro; IPRO11427; Chlamphr M.
InterPro; IPRO3368; Chlampdia PMP.
Pfam; PP03797; Autotransporter; 1.
Pfam; PP03415; Chlam PMP; 4.
Pfam; PP07548; ChlamPMP M; 1.
TIGRFAMB; TIGRO1414; autotrans barl; 1.
TIGRPAMB; TIGRO1376; POMP repeat; 3.
Complete proteome; Signal.
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Olinger L., Grimwood J., Davis R.W., Stephens R.S.;
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GCGTTTATC------CGTGCTAGCTACGGGTTTGGGAATCAGCATATGAAAACC
                             COTTGGGATAATAACTGTCTGGCTGGAGAGATTGGAGCGGGATTACCGATTGTGATTACT
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0923AI, 09RB73;
16-0CT-2001 (Rel. 40, Created)
16-0CT-2001 (Rel. 40, Last sequence update)
10-WAY-2005 (Rel. 47, Last annotation update)
Probable outer membrane protein pmp2 precursor (Polymorphic membrane protein 2) (Outer membrane protein 7).
Name=pmp2; Synonyme=omp7;
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Chlamydia pneumoniae (Chlamydophila pneumoniae).
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
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MEDLINE=20007584; PubMed=10539856;
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834 GlySerLysIleGlnPhe 839
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This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
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-!- SIMILARITY: Belongs to the PMP outer membrane protein family.
-!- CAUTION: Ref.4 and Ref.5 sequences differ from that shown due to frameshift in position 673.
                                                                                                                                                                                     STRAIN=AR39;
MEDLINE=20150255; PubMed=10684935; DOI=10.1093/nar/28.6.1397;
Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,
White O., Hickey B.K., Peterson J.D., Utterback T.R., Berry K.J.,
Bass S., Linher K.D., Weidman J.F., Khouri H.M., Craven B., Bowman (
Dodson R.J., Gwinn M.L., Nelson W.C., DeBoy R.T., Kolonay J.F.,
McClarty G., Salzberg S.L., Eisen J.A., Fraser C.M.;
Weenome sequences of Chlamydia trachomatis MoPn and Chlamydia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN=J138;
MEDLINE=2030349; PubMed=10871362; DOI=10.1093/nar/28.12.2311;
MEDLINE=20303494; Rimoto M., Tabuchi M., Kishi F., Ouchi K.,
Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K.,
Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.;
"Comparison of whole genome sequences of Chlamydia pneumoniae J138
from Japan and CML029 from USA.";
'Comparative genomes of Chlamydia pneumoniae and C. trachomatis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Probable outer membrane protein pmp2.
N -> S (in Ref. 4).
9064D60D0678D24C CRC64;
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EMBL; AE001236; AAD18172.1; -; Genomic_DNA.
EMBL; AE002235; AAF38561.1; -; Genomic_DNA.
EMBL; BA0000008; BAA98223.1; ALT_FRAME; Genomic_EMBL; AR017157; AAP97948.1; ALT_FRAME; Genomic_EMBL; AE017157; AAP97949.1; ALT_FRAME; Genomic_EMBL; B72130; E72130; E72130
                                                                                                                                            NUCLEOTIDE SEQUENCE (LARGE SCALE GENOMIC DNA)
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InterPro; IPR011427; ChlamPMP M.
InterPro; IPR003368; Chlamydia_PMP.
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                                            GTTCCAAATAGTTTATGGGGATCCATTTTAGATATACGATCTGCGCATTCAGCAATTCAA 2562
                                                                                       2563 GCAAGTGTGGATGGGCGCTCTTATTGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTC 2622
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=96466378; PubMed=8810511; DOI=10.1016/0378-1097(96)00281-9;

MEDLINE=96466378; PubMed=8810511; DOI=10.1016/0378-1097(96)00281-9;

Indentification of a multigene family coding for the 90 kDa proteins of the ovine abortion subtype of Chlamydia psittaci.";

FEMS Microbiol. Lett. 142:277-281(1996).

REMBL; U65943; AAC15923.1; -; Genomic_DNA.

GO, GO:0109867; C: Outer membrane; IRA.

RINE=Pro; IPR001546; Auto transptbeta.

RINE=Pro; IPR00137; ChlampMP_M.

RINE=Pro; IPR0137; ChlampMP_M.

Pfam; PR07548; ChlampMP_M.

Pfam; PR07548; ChlamPMP_M; 3.

RIGRPAMS; TIGR01376; POMP_repeat; 3.
                                                                                                                                                                                                                                                                     Longbottom D., Russell M., Dunbar S.M., Jones G.E., Herring A.J.;
"Molecular cloning and characterization of the genes coding for the highly immunogenic cluster of 90-kilodalton envelope proteins from the Chlamydia psittaci subtype that causes abortion in sheep.";
[2]
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278
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                                                                 Last sequence update)
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Matches:
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  PRT;
                                             Created)
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MEDLINE=98187897; PubMed=9529048;
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                                        01-FEB-1997 (TrEMBLrel. 02, 01-FEB-1997 (TrEMBLrel. 02, 01-MAR-2004 (TrEMBLrel. 26,
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Bacteria, Chlamydiae;
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                                                                                                            POMP91B precursor.
                                                                                                                                                                           NCBI_TaxID=83555;
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1228 AACGTAGCCCGAGTAGGAGGAGGATTTACTCCTACGGGAACGTTGCTTTCCTGAATAAT 1287
Pfam, PF07548; ChlamPMP M; 1.
Pfam, PF02415; Chlam_PMP; 4.
TICRPAMs; TIGR01376; POMP_repeat; 3.
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                                                                                                         AspCysThrAlaSerLeuLeuValSerProThrSerAlaValTrpValThrLysAlaAsn
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                                                                                           ATTACTCCATCTAAGCTCTATTTGAATGAGTTGCGTCCTTTCGTGCAAGCTGAGTTTTCT
                                                                                                                                       TATGCCGATCATGAATCTTTACAGAG---GAAGGCGATCAAGCTCGGGCATTCAAGAGC
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01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Polymorphic outer membrane protein G family protein/autotransporter,
putative.
OrderedLocusNames=CCA00281;
Chlamydobhila caviae.
Bacteria; Chlamydiae; Chlamydiales; Chlamydophila.
NCBI_TaxID=83557;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          843 AA
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EMBL; AE016995; AAP05032.1; -; Genomic_
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InterPro; IPR005546; Auto transptbeta.
InterPro; IPR011427; ChlamPMP.M.
InterPro; IPR001368; Chlamydia PMP.
Pfam; PF03797; Autotransporter; I.
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988 AGCAAGCTTTGTGTCTTCCAAGAAATACTGCTCAAGCTGATGGGGGAGCTTGTCAAGTA 1047
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843 AA; 91510 MW; 05CC5E3764CF3A43 CRC64;
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270
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361
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                                                                   Length:
Matches:
Conservative:
Mismatches:
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	Db 430 AlaLeuAlaAspSerLeuSerPheGluCysLeuHisValArg	2416 2416 481 2458	2558 ALIMANICO	υ— e	Qy 2626 TATCATGACGGGATGCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGTTATTCCTTA 2685	Db 579 GlyGlyLygPheGlnThrLeuGlnAspAspAleThePheServalGlylleCysGlnLeuPhe 598 Qy 2743 GGTAGATCTAAAGATTATGTAGTGTCGTTCCATCCATCATCATGCTTAGGATCCGTT 2802 Dh 599 GlyArGSerLyaAspPheGlySerAlaLysSerLvaAspLysAstLeu 618	2803 TATCTACCAACAAGCTTTATGTGGATCCTATTTGTTCGGA [Qy 2848GATGCGTTT 2856 Db 639 SerGlnProArgPheLeuSerArgIleProLy8AspPheProIleAsnPheAspAlaLeu 658 ON 2857 ATCCGTGCTACGGGTTTGGGAATCAGCATATGAAAACCTCATATACATTTGCAGAG 2916		Db 677 GlnThrThrSerSerTrpAsnThrTyrGlyTyrSerAlaGln1leGlySerSerLeuPro 696 Qy 2977 ATTGTGATTACTCCATCTAAGCTCTATTTGAATGAGTTGCGTCCTTTGCTGCAAGCTGAG 3036 1::	3037 TTTTCTTATGCCGATCATGAATCTTTTACAGGAAGGCGATCAAGCTCGGGCATTCAAG :::	3097	315/ ACACATCIAAIAAIAIAGATIIAAGGGGGGGGGGGGGGGG	<pre>Qy 3217 TCTGGTACTGAGACAACGCTCCTATCCCATCAAGAGACATGGACAACAAGATGCCTIT 32/3</pre>
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us-10-701-844-1.rup

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InterPro; IPR011427; ChlamPMP M.
InterPro; IPR011427; ChlamPMP M.
InterPro; IPR011427; Chlamydia_PMP.
Pfam; PF02415; Chlam PMP; 6.
Pfam; PF02415; Chlam PMP; 6.
Pfam; PF07548; ChlamPMP M; 1.
IIGRFMA; ITGR01376; POMP.
COMPLETE proteome; Membrane; Multigene family; Outer membrane; Signal.
CATITIAGCAAGACATGGAGTTGTGGTTAGAGGATCTATGTATGCTTCTAACAAGTAAT
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MEDLINE-20150255; PubMed=10684935; DOI=10.1093/nar/28.6.1397;

Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,

White O., Hickey E.R., Peterson J.D., Utterback T.R., Berry K.J.,

Bass S., Linhar K.D., Weidman J.F., Khouri H.M., Craven B., Bowman Dodson R.J., Gwinn M.L., Nelson W.C., DeBoy R.T., Kolonay J.P.,

McClarty G., Salzberg S.L., Elsen J.A., Fraeer C.M.;

"Genome sequences of Chlamydia trachomatis Mopn and Chlamydia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Probable outer membrane protein pmpI 557994185A9E5652 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   pneumoniae AR39.";
Nucleic Acids Res. 28:1397-1406(2000).
-!- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein ).
Name-pmp1 ).
Name-pmp1 ).
CoderedLocusNames-TC0267;
Chlamydia muridarum.
Bacteria; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae.
NCBI_TAXID=83560;
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Conservative:
Mismatches:
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16-OCT-2001 (Rel. 40, Last sequence update)
16-WAY-2005 (Rel. 47, Last annotation update)
Probable outer membrane protein pmpl precursor
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PIR; F81721; F81721.
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US-10-701-844-1 (1-4435) x PMPI_CHLMU (1-867)

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--LeuCysAlaThrIleLeuSerProThrAlaIleLeu 22
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                                                                                                                      GGATCGGGAGGGAAAATAACGACATTAAGAGCTAAAGCAGGGCATCAGATTCTCTTTAAT 1791
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                                                                SerAspGlnGlyThrVal------334
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2977 ATTGTGATTACTCCATCTAAGGTCTAATTTGAATGAGTTGCGTCCTTTCGTGCAAGCTGAG 3036
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                                                                                                                                                                                                                                                                                           TTAGGAGCAAACTCCTAC---TTTGGATCATCGATGTTTGGTCTAGCATTTACCGAAGTA 2739
                                                                                                                                                                     ---CATGACCGCGATGCTTTAGGT----CAGGGATATCGGTATATTAGTGGGGGTTATTCC 2682
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|IleValSerAsnGlySerGlyLeuPhe---SerSerPheSerIlePheSerLysLeuGln 741
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802 GluSerGlyProValThrLeuLeuLy8A8nSerValThrTrpAspAlaProMetAlaAsn
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PheGly1leSerThrHisSerLeuAspAspHisSerPheCysLeuAlaAlaGlyGlnLeu
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PheGlyLysSerSerAmpSerPheValThrSerAlaAspThrThrSerTyrIleAlaAla
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569 AsnThrLeuTrpAsnThrTyrSerAspMetGlnAlaValGlnSerMetIleAsnThrThr
                                                                                                                                                                                                                                      609 SerHisGlyAsnSerGlyLysSerThrAspAsnTrpLysHisArgSerLeuGlyTyrLeu
                                                              2569 GTGGATGGGCGCTCTTATTGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTCTTAT
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01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Putative polymorphic membrane protein (Fragment).
Chlamydia psitraci (Chlamydophila psitraci).
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
NCBI_TAXID=83554;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----LeuGlnThr 141
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                        Laroucau K., Souriau A., Rodolakis A.;
Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
BMBL; AR213418; AAL36562.1; -; Genomic_DNA.
GO; GO:0019867; C:outer membrane; IRA.
InterPro; IPR005315; Autotransporter.
InterPro; IPR005546; Auto transptbeta.
InterPro; IPR011427; CilambMP.M.
Pfam; PF07397; Alutotransporter; 1.
Pfam; PF07548; ChlambMP.M. 1.
ITGRRAMs; TIGR01414; autotrans_barl; 1.
NON TER.
SEQUENCE 602 AA; 65561 MM; CA486CPACEC131E2 CRC64;
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210
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Matches:
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Mismatches:
Indels:
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787.50
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Best Local Similarity:
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Pred. No.:
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CTGAAATTACAGTTAGGGACTAAGCCCCCCAGCTAATGCCCCATCAGATTTGACTCTAGGG 2361
                               249 GlyThrSerAlaGln---GluGluThrAlaThrLeuThrTpGluGlnThrAspTyrSer 267
                                                                                                                                                                                                                                                                                                                                                            2773 TCCAATCATCATGCTTGCATAGGATCCGTTTATCTA---------TCTACC 2814
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LysPheGluArgPheAlaTyrAsnAspValAlaSerTyrHisLeuThrAlaAlaTyrAla 526
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                                                                                                                                          2416 AATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAAACTGGGTATAAT
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                                                                                                          AATGAGATGCCT----AAGTATGGCTATCAAGGAAGCTGGAAAGCTTGCGTGGGATCCT
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TCTGCTGATTATGGAGATATTATTTTCGATGGGAATCTTAAAAGAACAGCCAAAGAAT 1683
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                                                                                        TIACTITGCCGTACTGCCTGCTGCAACGACTAATAAGGGTAGCCAGACTCCCGACGACAACA 849
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------AspAlaLysThr
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------AlaProGlnAlaThrThr-------
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                             GCTGATGGACTGTTTACTATTGAGGGTTTTTAAAGAATTATCCTTTTCCAATTGCAATTCA
SerLeullePheGluAspileIleSerThrAlaGlnGlyAlaAlaIleSer----
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118 LeulysMetSerGlyPheAsnThrLeu------
                                                                                                                            -----AlaAsnThr----
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ThrThrTyrThrLeuThrGlyAspValThrIleThrHisValLysThrThrSerProAla 74
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                      STRAIN=GPIC;
MEDLINE=22569155; PubMed=12682364; DOI=10.1093/nar/gkg321;
MEDLINE=22569155; PubMed=12682364; DOI=10.1093/nar/gkg321;
Read T.D., Myers G.S.A., Brunham R.C., Nelson W.C., Paulsen I.T.,
Heidelberg J.F., Holtzapple B.K., Khouri H.M., Federova N.B.,
Carty H.A., Umayam L.A., Haft D.H., Pererson J.D., Beanan M.J.,
White O., Salzberg S.L., Haft R.-C., McClarty G., Rank R.G.,
Bavoil P.M., Praser C.M.;
"Genome sequence of Chlamydophila caviae (Chlamydia psittaci GPIC):
examining the role of niche-specific genes in the evolution of the
Chlamydiaceae.";
                                                                                                                                                                                         01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Polymorphic outer membrane protein G family protein/autotransporter,
                                                                                                                                                                                                                                                                                          Chlamydophila caviae.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiae; Chlamydophila
NCBI_TaxID=83557;
                                                                                  3370 GATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGTAGAGTCCGGTTC
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Matches:
Conservative:
Mismatches:
Indels:
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EMBL; AE016995; AAP05031.1; -; Genomic_DNA.
TIGR; CCA00280; -
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InterPro; IPR001546; Auto transpibeta.
InterPro; IPR011427; ChlamPMP_M.
InterPro; IPR003569; ChlamPMP_M.
InterPro; IPR005626; PbH1.
Pfam; PF03797; Autotransporter; 1.
Pfam; PF07548; ChlamPMP_M; 1.
Pfam; PF07548; Chlam_PMP; 4.
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OrderedLocusNames=CCA00280;
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1804	ATGGCAAACGAAATAACCAGCCAGCGCAGTCTTCCAAACTTCTAAAATTAACGATGGT 1863 :::	
1864	GAAGGATACACAGGGATATTGTTTTTTGCT	
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1942	ATTGTTCTTCGTGAAAGGCAAAATTATCAGTGAATTCTCTAAGTCAGACAGGGGGGT 2001 ::: :::	
2002	AACTCCACAACCACACAACAG	
366	376	
377	CCTCCTGCCGCTAATCAGTTGATCACCTTTCCAATCTGCATTTGTCTCTTTCTT	
2119	TTAGCAAACAATGCAGTTACGAATCCTCCTAATCCTCCAGCGCAAGATTCTCATCCT 2178	
394	 AsmThrProThrAlaThr 399	
 2179	GCAGTCATTGGTAGCACAACTGCTGGTTCTGTTACAATTAGTGGGCCTATCTTTTTT 2235 	
2236		
420	:::	
 439	TGGCTAGGTTCTAATCAAAAATCAATGTCCTGAAATTACAGTTAGGGACTAAGCCCCCA 2331 ::	
2332		
458	AlaValArgLysAsnLeuAspSerHisSerGlyTyrdlnGly 471	
 2392	AGCTGGAAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCTTATACTCTG 2445	
2446	AAAGCTACATGGACTAAAACTGGGTATAATCCTGGGCCT 2484	
492	GlyThrLysThrAlaThrValHisTrpArgProThrGlyTyr1leProPheGlyGlySer 511	
 2485	GAGCGAGTAGCTTCTTTGGTTCCAAATAGTTTATGGGGATCCATTTTAGATATACGA 2541 ::: :::	
2542	TCTGCGCATTCAGCAATTCAAGCAAGTGTGGATGGGGCTCTTATTGTCGAGGATTA 2598	
532	AsnLeuGluArgThrValGluSerLeuAlaValAsnSerLeuCysSerGluGlyPhe 550	
 2599	TGGGTTTCTGGAGTTTCGAATTTCTTCTATCATGACCGCGATGCTTTAGGTCAGGGATAT 2658 ::: ::: ::: :::	
 2659	CGGTATATTAGTGGGGGTTATTCCTTAGGAGCAARCTCCTACTTTGGATCATCGATG 2715 ::::: :: ::::	
2716		
591	 PheSerAlaAlaPheSerGlnLeuPheGlyLysAspArgAspHisAlaAsnGlyHisVal 610	

Search completed: May 13, 2006, 10:31:16 Job time : 1252.5 secs

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C. tracho
Protein e
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C. tracho
Chlamydia

Abg91037 CAbg91037 CAbg91037 CAbg42682 CAbd43800 CAbdw29028 CAbbar

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Searched:

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Chlamydia; high molecular weight protein; HMW protein; urethritis; bacterial infection; conjunctivitis; lymphogranuloma venereum; LGV; ecritcitis; epididymitis; endometritis; pelvic inflammatory disease; PlD; salpingitis; tubal occlusion; infertility; cervical cancer; arteriosclerosis; atherosclerosis.
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                     AEA19078
AEA19080
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AAY1673
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AAY16731
                                                                                                                                                                                                                                                                                                                                         AAY16735 standard; protein; 1012 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (ANTE-) ANTEX BIOLOGICS INC.
                                                                                                                                                                                                                                                                                                                                                                         21-JUL-1999 (first entry)
Chlamydia trachomatis.
01-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12-OCT-1997;
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Abg91021 Chlamydia
Add43798 Chlamydia
Add43722 Chlamydia
Add43718 Chlamydia
Add43714 Chlamydia
Add43714 Chlamydia
Add43718 Chlamydia
                                                               (without alignments)
4745.077 Million cell updates/sec
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                                                                                                       1 gggcaaaactctcccccg......gcatcctaacgaaagaattc 4435
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                                                      May 13, 2006, 09:33:09; Search time 123.2 Seconds
        GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd.
                                        protein search, using frame_plus_n2p model
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                                                                                                                                                                      2443163 segs, 439378781 residues
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                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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ABG91021
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Database

Result No.

Jackson JW, Pace JL; WPI; 1999-287659/24. N-PSDB; AAX60539. ે

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1041
                                                The invention relates to an isolated Chlamydia species high molecular weight (HMM) protein having an apparent mol. wt. of 105-115 kD as determined by SDS-PAGE. The HWM proteins and nucleic acid molecules can be used for preventing, treating or ameliorating a disorder related to Chlamydia e.g. bacterial infection, conjunctivitis, urethritis, lymphogranuloma venereum (LGV), cervicitis, epididymitis, endometritis, pelvic inflammatory disease (PID), salpingitis, tubal occlusion, cervical cancer, infertility, arteriosclerosis and atherosclerosis. The products can also be used for detection and diagnosis. The present sequence represents a C. trachomatis HMM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAAGTAGTCACCAGTTTCTCTGTGCTATGGCTAACGAGGCTCCTATTGCCTTTGTAGCGAAT 1101
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urethritis
treating conjunctivitis,
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Matches:
Conservative:
Mismatches:
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Chlamydia protein useful for
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                            Claim 4; Fig 3; 141pp; English
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                                                                                                      The present invention relates to a new gram-negative bacterial bleb presenting on its surface the PorB outer membrane protein from Chlamydia trachomatis, or a protective antigen from C. preumoniae. The invention is useful for preventing C. trachomatis or C. pneumoniae infection in a host. The present nucleic acid sequence represents a Chlamydia trachomatis gene of the invention
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Chlamydia trachomatis infection; Chlamydia pneumoniae infection;
protective antigen; antibacterial; vaccine; gene; ds.
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The invention relates to a novel immunogenic composition comprising a protein or nucleic acid, and an adjuvant, where the protein or nucleic acid comprises any of 131 fully defined amino acid or nucleotide acid comprises any of 131 fully defined amino acid or nucleotide acid or the inclusion in the specification, or has 50% or greater sequence identity to it, or their fragments. The protein and/or nucleic acid of the immunogenic composition is useful in the manufacture of a medicament or prevention of infection due to Chlamydia Crachomatis. The infection is treated or prevented by the medicament claiming an immune response which is specific to a C. trachomatis of elementary bodies, clementary body, or for neutralising C. trachomatis elementary bodies, hence the immunogenic composition can also be used for the diagnosis of C. trachomatis infection. The nucleic acids of the immunogenic compositions can also be used for the immunogenic compositions can be used to treat disorders by gene therapy. The immunogenic compositions can be used activity. This sequence represents one of the immunogenic properties of the
                                                                                                                                                                                                                                                                                                                            immunogenic composition having a protein or encoding nucleic acid, ful for diagnosing, preventing and/or treating Chlamydia trachomatis
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12-DEC-2001; 2001GB-00029732.
06-AUG-2002; 2002GB-00018233.
14-AUG-2002; 2002GB-00018924.
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                                                                                                            CAAGCTCGGGCATTCAAGAGCGGACATCTCCTAAATCTATCAGTTCCTGTTGGAGTGAAG
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SerTyrThrPheAlaGluGluSerAspValArgTrpAspAsnAsnCysLeuValGlyGlu
                                                                              ProPheValGlnAlaGluPheSerTyrAlaAspHisGluSerPheThrGluGluGlyAsp
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                       ATTGGAGCGGGATTACCGATTGTGATTACTCCATCTAAGCTCTATTTGAATGAGTTGCGT
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|IleGlyValGlyLeuProIleValIleThrProSerLysLeuTyrLeuAsnGluLeuArg
                                                                  CCTTTCGTGCAAGCTGAGTTTTCTTATGCCGATCATGAATCTTTTACAGAGGCGAT
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                                                                                                                                                                                                                                                 The invention relates to a novel immunogenic composition comprising
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gene therapy; antibacterial.
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3139 TITGATCGATGTTCTAGTACACATCCTAATAAATATAGCTTTATGGCGGCTTATATATGT GATGCTTATCGCACCATCTCTGGTACTGAGACACCCTCCTATCCCATCAAGAGACATGG ATTGGAGCGGGATTACCGATTGTGATTACTCCATCTAAGCTCTATTTGAATGAGTTGCGT CAAGCTCGGGCATTCAAGAGCGGACATCTCCTAAATCTATCAGTTCCTGTTGGAGTGAAG GATTTGGATGATACAGCTTATGATAGGTATGATTGGCTAGGTTCTAATCAAAAATCAAT | INCOME | I GGTCTAGCATTTACCGAAGTATTTTGGTAGATCTAAAGATTATGTAGTGTGTCGTTCCAAT CATCATGCTTGCATAGGATCCGTTTATCTATCTACCCAACAAGCTTTATGTGGATCCTAT TIGITICGGAGATGCGTTTATCCGTGCTAGCTACGGTTTGGGAATCAGCATATGAAAACC GOGAATGAGATGCCTAAGTATGGCTATCAAGGAAGCTGGAAGCTTGCGTGGGATCCTAAT ACAGCAAATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAAACTGGGTATAATCCT COGTATATTAGTGGGGGTTATTCCTTAGGAGCAAACTCCTACTTTGGATCATCGATGTTT 621 AspleuAspAspThrAlaTyrAspArgTyrAspTrpLeuGlySerAsnGlnLyslleAsp GTCCTGAAATTACAGTTAGGGACTAAGCCCCCAGCTAATGCCCCATCAGATTTGACTCTA

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                                                                             TCTCTAACAAGTAATATAGAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCT 3378
                         981 SerLeuThrSerAsnIleGluValTyrGlyHisGlyArgTyrGluTyrArgAspThrSer 1000
                                                    980
941 AspAlaTyrArgThrIleSerGlyThrGlnThrThrLeuLeuSerHisGlnGluThrTrp 960
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                                         immunogenic; infection; Chlamydia trachomatis; immune; vaccine; gene therapy; antibacterial.
                                                                                                                                                                                                                                                                                                     Chlamydia trachomatís immunogenic protein, SEQ ID No 13
                                                                                                                                                   1001 ArgGlyTyrGlyLeuSerAlaGlySerLysValArgPhe 1013
                                                                                                                                     CCAGGCTATGGTTTGAGTGCAGGAAGTAGAGTCCGGTTC 3417
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06-AUG-2002; 2002GB-00018233.
14-AUG-2002; 2002GB-00018924.
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Alignment Scores:

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                                                                                                                                                              TCTGCAGGAGAGTTAACATTAAAAATCTTGACAATTCTATTGCAGCTTTGCCTTTAAGT
                                                                                                                                                                                                             61 SerAlaGlyGluLeuThrLeuLysAsnLeuAspAsnSerIleAlaAlaLeuProLeuSer
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13.2 CANCOACAMOTGGACGGTGTANTACAGGACGATGGACGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAG

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The invention relates to a novel immunogenic composition comprising a protein or nucleic acid, and an adjuvant, where the protein or nucleic acid comprises any of 131 fully defined antho acid or nucleotide acid comprises any of 131 fully defined antho acid or nucleotide acid comprises given in the specification, or has 50% or greater sequence identity to it, or their fragments. The protein and/or nucleic acid of the immunogenic composition is useful in the manufacture of a medicament or trachomatis. The infection is treated or prevented by the medicament elementary body, or for nettralising C. trachomatis elementary bodies, elementary body, or for nettralising C. trachomatis elementary bodies, composition can be used for the diagnosis of C. trachomatis infection. The nucleic acids of the immunogenic compositions can be used for the diagnosis of C. trachomatis infection. The nucleic acids of the immunogenic compositions can be used acids of the immunogenic compositions compositions acivity. This sequence represents one of the 131 C. trachomatis proteins with immunogenic properties of the
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                                                         immunogenic; infection; Chlamydia trachomatis; immune; gene therapy; antibacterial.
                              Chlamydia trachomatis immunogenic protein, SEQ ID
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06-AUG-2002; 2002GB-00018233.
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Best Local Similarity:
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gene therapy; antibacterial
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WPI; 2003-532882/50. N-PSDB; ADD43715. Grandi G, Ratti G;

New immunogenic composition having a protein or encoding nucleic acid, useful for diagnosing, preventing and/or treating Chlamydia trachomatis infection.

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Claim 6; SEQ ID NO 9; 164pp; English.

The invention relates to a novel immunogenic composition comprising a protein or nucleic acid, and an adjuvant, where the protein or nucleic acid comprises any of 131 fully defined anino acid or nucleotide acid comprises any of 131 fully defined anino acid or nucleotide cacquences given in the specification, or has 50% or greater sequence identity to it, or their fragments. The protein and/or nucleic acid of the immunogenic composition is useful in the manufacture of a medicament for the treatment or prevention of infection due to Chlamydia crachomatis. The infection is treated or prevented by the medicament claiming an immune response which is specific to a C. trachomatis claiming a vaccine. The immunogenic compositions can also be used for the diagnosis of C. trachomatis infection. The nucleic acids of the immunogenic compositions can also be used for the immunogenic compositions can be used to treating a vaccine. The immunogenic compositions and alsorders by gene therapy. The immunogenic compositions can be used act the immunogenic compositions have antibacterial activity. This sequence represents one of the ill C. trachomatis proteins with immunogenic properties of the invention

Sequence 1013 AA;

1013 983 18 Length: Matches: Conservative: Mismatches: 0 5131.50 98.8% 97.0% Percent Similarity: Rest Local Similarity: Alignment Scores:

Best Local Similarity: Query Match: DB:	Sim: 1:	ilarity:	97 65 7	97.0% 65.1% 7		Mismatches: Indels: Gaps:	1			
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1222	CTG 12
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34.	agaatggtgcgcaagcaggatccaataactctggatcagttcctttgat 14
9	GGAGTAGTTTTCTTAGTAGCAATGTAGCTGCTGGAAAGGGGGAGCTATTAT 15
151	AAAGGTCTCGGTTGCTAACTGTGGCCCTGTACAATTTTTAAGGAATATCGCTAAT
157	AGAGCTCAGTTATCTGCTGATTATGGA
163.	agccaaagagaatgctgccgatgttaat ralalysgluasnalaalaaspvalasn
169	AACGACA eThrThi
175	TGATCCCATCGAGATGGCAAACGGAAAT
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The invention relates to a novel immunogenic composition comprising a protein or nucleic acid, and an adjuvant, where the protein or nucleic acid comprises any of 131 fully defined amino acid or nucleotide sequences given in the specification, or has 50% or greater sequence identity to it, or their fragments. The protein and/or nucleic acid of the immunogenic composition is useful in the manufacture of a medicament for the treatment or prevention of infection due to Chlamydia trachomatis. The infection is treated or prevented by the medicament
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ThrThrAspAlaPheHisLeuAlaArgHisGlyVallleValArgGlySerMetTyrAla
                                                  CAAGCTCGGCCATTCAAGAGCGGACATCTCCTAAATCTATCAGTTCCTGTTGGAGTGAAG
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14-AUG-2002; 2002GB-00018924.
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eliciting an immune response which is specific to a C. trachomatis elementary body, or for neutralising C. trachomatis elementary bodies, hence the immunogenic composition can be used in creating a vaccine. The immunogenic compositions can also be used for the diagnosis of C. trachomatis infection. The nucleic acids of the immunogenic compositions can be used to treat disorders by gene therapy. The immunogenic compositions compositions have antibacterial activity. This sequence represents one of the 131 C. trachomatis proteins with immunogenic properties of the
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QQ Q	261	
ò	1222	GATGGGAACGTAGCCCGAGTAGGAGGGATTTACTCCTACGGGAACGTTGCTTTCCTG 1281
DP DP	281	AspGiyAsnValAlaArgValGiyGiyGiyIleTyrSerTyrGiyAsnValAlaPheLeu 300
ò	1282	2 AATAATGGAAAAACCTTGTTTCTCAACAATGTTGCTTCTCCTGTTTACATTGCTGCTAAG 1341
qq	301	AsnAsnGlyLysThrLeuPheLeuAsnAsnAsnValAlaSerProValTyrIleAlaAlaGlu 320
δλ	1342	CAACCAACAAGTGGACAGGGTTCTAATACGAGTAATAATTACGGAGATGGAGGAGCTATC 1401
Dp	321	rothranglydlnalaserasnthrseraspasntyrdlyaspglydlyalaile 340
λŏ	1402	TTCTGTAAGAATGGTGCGCAAGCAGGATCCAATAACTCTGGATCAGTTTCCTTTGAT 1458
qq	341	ıysAsınGlyAlaGlnAlaAlaGlySerAsnAsnAsnSerGlySerValSerPheAsp 360
à	29	
q	361	ıcıyvalvalphepheserserAsnValAlaAlaGlyLysGlyGlyAlaIleTyr 380
ò	1519	GCCAAAAGCTCTCGCTTGCTAACTGTGGCCCTGTACAATTTTTTAAGGAATATCGCTAAT 1578
qq	381	alyslysleuservalalaasnCysClyProValGlnPheLeuGlyAsnIleAlaAsn 400
à	1579	16
οp	401	AspólyólyálailefyrLeudlyólusérólyóluLeuserLeuseralaAspTyrGly 420
ò	1639	GATATTATTTCGATGGGAATCTTAAAGAACAGCCAAAGAGAATGCTGCCGATGTTAAT 1698
Dβ	421	_
à	1699	GGCGTAACTGTGCTCCACAAGCCATTTCGATGGGATCGGGAGGGA
οp	441	_
à	1759	AGAGCTAAAGCAGGCATCAGATTCTCTTTAATGATCCCATCGAGATGGCAAACGGAAAT 1818
Dp	461	ArgalaLysAlaGlyHisGlnIleLeuPheAsnAspProIleGluMetAlaAsnGlyAsn 480
à	1819	119 AACCAGCCAGCGCAGTCTTCCAAACTTCTAAAAATTAACGATGGTGAAGGATACACAGGG 1878
gg	481	_
δ	1879	GATATIGITITIGCIAATGGAAGCAGTACTITGIACCAAAATGTIACGAIAGAGCAAGGA 1938
ар	501	AspilevalPheAlaAsnGlyAsnSerThrLeuTyrGlnAsnValThrileGluGlnGly 520
Š	1939	139 AGGATTCTTCTTCGTGAAAGGCAAATTATCAGTGAATTCTCTAAGTCAGACAGGTGGG
qq	521	ArgilevalLeuArgGluLysAlaLysLeuSerValAsnSerLeuSerGlnThrGlyGly 540
ģ	1999	-72
Ор	541	_
ò	2059	CCTCCTGCCGCTAATCAGTTGATCACGCTTTCCAATCTGCATTTGTCTCTTTCTT
Db	561	rserLeu 580
&	2119	SGAAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGCGCAAGATTCTCATCCT 2
qq	581	laAsnAsnAlaValThrAsnProProThrAsnProProAlaGlnAspSerHisPro 60
È	2179	rrrrgAG 22
Ор	601	laii

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CGAGGCTATGGTTTGAGTGCAGGAAGTAGAGTCCGGTTC 3417
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                                                                                              ADD43788 standard; protein; 1013
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06-AUG-2002; 2002GB-00018233.
14-AUG-2002; 2002GB-00018924.
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                                           GTCCTGAAATTACAGTTAGGGACTAAGCCCCCAGCTAATGCCCCATCAGATTTGACTCTA
                                                       ValLeuLysLeuGlnLeuGlyThrGlnProSerAlaAsnAlaProSerAspLeuThrLeu
                                                                                     GGGAATGAGATGCCTAAGTATGGCTATCAAGGAAGCTGGAAGCTTGCGTGGGATCCTAAT
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The invention relates to a novel immunogenic composition comprising a protein or nucleic acid, and an adjuvant, where the protein or nucleic acid comprises any of 131 fully defined amino acid or nucleotide acid comprises any of 131 fully defined amino acid or nucleotide cacid comprises any of 131 fully defined amino acid or nucleotide cacid of the immunogenic composition is useful in the manufacture of a medicament for the treatment or prevention of infection due to Chlamydia trachonatis. The infection is treated or prevented by the medicament trachonatis. The infection is treated or prevented by the medicament clamentary body, or for neutralising C. trachonatis elementary bodies, hence the immunogenic compositions can also be used in creating a vaccine. The immunogenic compositions an also be used for the diagnosis of C. trachonatis infection. The nucleic acids of the immunogenic compositions can be used at the immunogenic compositions can be used at the immunogenic compositions can be used in the immunogenic compositions have antibacterial activity. This sequence represents one of the 131 C. trachomatis proteins with immunogenic properties of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New immunogenic composition having a protein or encoding nucleic acid, useful for diagnosing, preventing and/or treating Chlamydia trachomatis infection.
                                                                                      Chlamydia trachomatis; immune; vaccine;
Chlamydia trachomatis immunogenic protein, SEQ ID No 83
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Conservative:
Mismatches:
Indels:
Gaps:
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682 GAGAACATACGGACTTCTACAAATGGGCACCTCTAAGTAATAGCGCTGCTGATGGACTG 101 GludsnileArgThrSerThrSnGlyAlaalaLeuSerSapSerAlaAsnSerGlyLeu 142 TTTACTATTGGGCTTTTAAAGGATTCTTTTCCAATTGCTACTTCTTGCGTA 121 PheThrIleGluGlyPheLySGluLeuSerPheSerAspSerAlaAsnSerGlyLeu 142 PHTATTGTATTGGAGGTTTTAAAAGGTAGCCAGACTCCATGAATTGCAACTCTTACTTGCGGTA 141 LeuProAlaAlaThrThrAsnAsGGTAGCCAGACTCCAACAACATCATACTTACTTGCGTT 141 LeuProAlaAlaThrThrAsnAsGGTAGCCAGACTCCAACAACATCAAAATAGAAGTTGCAACTTATTGTACTTACT
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2178 GTACTTTGTACCAAATGTTACGATAGAGCAAGGA 1938 2118 GTTCTGTTACAATTAGTGGGCCTATCTTTTTGAG 2238 TITCCAAATAGTITATGGGGATCCATTITAGATATA 2538 TCTTTAATCATCCCATCGAGATGGCAAACGGAAAT 1818 1518 1638 AAAGAACAGCCAAAGAGAATGCTGCCGATGTTAAT 1698 CGCTTTCCAATCTGCATTTGTCTCTTTTTTTT 2116 CTCCTACCAATCCTCCAGGGCAAGATTCTCATCCT 2176

12-DEC-2001; 2001GB-00029732. 06-AUG-2002; 2002GB-00018233. 14-AUG-2002; 2002GB-00018924.

G, Ratti G; (CHIR-) CHIRON SPA

Grandi

12-DEC-2002; 2002WO-IB005761

Chlamydia trachomatis.

WO2003049762-A2 19-JUN-2003

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         ArgSerAlaHisSerAlaIleGlnAlaSerValAspGlyArgSerTyrCysArgGlyLeu
                                    TGGGTTTCTGGAGTTTCGAATTTCTTCTATGACCGCGATGCTTTAGGTCAGGATAT
                                               TrpValSerGlyValSerAsnPhePheTyrHisAspArgAspAlaLeuGlyGlnGlyTyr
                                                                         CGGTATATTAGTGGGGGTTATTCCTTAGGAGCAAACTCCTACTTTGGATCATCGATGTTT
                                                                                                             GGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAAGATTATGTAGTGTGTCGTTCCAAT
                                                                                                                                                 CATCATGCTTGCATAGGATCCGTTTATCTATCTACCCAACAAGCTTTATGTGGATCCTAT
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protein or nucleic acid, and an adjuvant, where the protein or nucleic acid comprises any of 131 fully defined amino acid or nucleotide acid comprises any of 131 fully defined amino acid or nucleotide sequences given in the specification, or has 50% or greater sequence identity to it, or their fragments. The protein and/or nucleic acid of the immunogenic composition is useful in the manufacture of a medicament for the treatment or prevention of infection due to Chlanydia trachomatis. The infection is treated or prevented by the medicament eliciting an immune response which is specific to a C. trachomatis clementary body, or for neutralising C. trachomatis elementary bodies, hence the immunogenic composition can be used in creating a vaccine. The immunogenic compositions can also be used for the diagnosis of C. trachomatis infection. The nucleic acids of the immunogenic compositions compositions are thereby. This sequence represents one of the 111 C. trachomatis proteins with immunogenic properties of the
                                                                                                                                                                                                                                                                                                                                                                  New immunogenic composition having a protein or encoding nucleic acid, useful for diagnosing, preventing and/or treating Chlamydia trachomatis infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          invention relates to a novel immunogenic composition comprising
                                                                                                                                                                                                                                                                                                                                                                                                                                                   6; SEQ ID NO 5; 164pp; English
                                                                                                                                                                                                                                                                                                              WPI; 2003-532882/50.
N-PSDB; ADD43711.
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Sequence 1013 AA;

1013 983 18 11 1 Length:
Matches:
Conservative:
Mismatches:
Indels: Gaps: 0 5131.50 98.8% 97.0% 65.1% Percent Similarity: Best Local Similarity: Query Match: DB:

US-10-701-844-1 (1-4435) x ADD43710 (1-1013)

681	622 TGTTTTGGGAACTTATTAGGAAGTTTTACTGTTTTAGGGAGAGACACTCGTTGACTTTT 681	
80		
621	562 TCTGCAGGAGAGTTAAACATTAAAAAATCTTGACAATTCTATTGCAGTTTGCCTTTAAGT 6	
09	41 ThrLeuThrValSerPheProTyrThrVallleGlyAspProSerGlyThrThrValPhe 60	
561	502 ACGITAACIGIATCATITICCCTATACIGITATAGGAGATCCGAGTGGGACTACTGTTTTT 5	
40	21 LeuSerGlyGlyGlyGlyTyrAlaAlaGlulleMetileProGlnGlyIleTyrAspGlyGlu 40	
501	442 TTAAATGGGGGGGGGATATGCAGCAGAAATCATGGTTCCTCAAGGAATTTACGATGGGGG 5	
20		
441	382 AIGCAAACGICITICCATAAGIICITICTIICAAIGAIICIAGCIIAIITCIIGCIGCICI 4	

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immunogenic; infection; Chlamydia trachomatis; immune; vaccine; gene therapy; antibacterial.

Chlamydia trachomatis immunogenic protein, SEQ ID No 5.

10 CysPheciyAsniculeududiyderPherhrvalleudiyArgdiyHisSerleuthrPhe 100	& a	<u>ት </u>	કે 8 ∂	S A 6	ਤੇ ਜੋ ਹੈ 	3 A 8	3 B 8	3 A S	3 A 3	3 A &	· 음 원	3 A 8	7 A 8	3 A S	3 A 8	ž 8 č	S A E	<u> </u>
	CysPheGlyAsnLeuLeuGlySerPheThrValLeuGlyArgGlyHisSerLeuThrPhe 100 CAGAACATACGACTTCTACAAATGGGGCACTCTAAGTAATGGGCCTGTAATAGGCCTGCTGTG 74	42 TITACTATIGAGGGITITIAAAGAAITATCCITITICCAAITGCAAITCAITACTIGCCGIA 80	02 CTGCCTGCTGCAACGACTAATAAGGGTAGCCAGACTCCCGACGACAACATCTACACCGTCT 86	62 AATGGTACTATTTATTCTAAAACAGATCTTTTGTTACTCAATAATGAGAAGTTCTCATTC 92	TATAGTAATTTAGTCTCTGGAGATGGGGGAGCTATAGATGCTAAGAGCTTAACGGTTCAA 98	2 GGAATTAGCAAGCTTTGTGTCTTCCAAGAAATACTGCTCAAGCTGATGGGGGGGG	042 CAAGTAGTCACCAGTTTCTCTGCTATGGCTAACGAGGCTCCTATTGCCTTTGTAGGGAAT 11	GTTGCAGGAGTAAGAGGGGGGGGATTGCTGCTGTTCAGGATGGGCAGCAGGAGTGTCA 11	2 TCATCTACTTCAACAGAAGATCCAGTAGTAATTATTCCAGAAATACTGCGGTAGAGTTT 12	2 GAIGGGAACGIAGCCCGAGIAGGAGGAGAITIACTCCIACGGAACGTIGCTITCCTG 12	2 AATAATGGAAAAACCTTGTTTCTCAACAATGTTGCTTCTCCTGTTTACATTGCTGCTAAG 134	2 CAACCAACAACAGGGCCTCTAATACGAGTAATAATTACGGAGATGGAGGAGCTATC 14 :::	2 TTCTGTAAGAATGGTGCGCAAGCAGGATCCAATAACTCTGGATCAGTTTCCTTTGAT 1450	59 GGAGAGGGAGTAGTTTTTTAGTAGCAATGTAGCTGCTGGGAAAGGGGGAGCTATTTAT 151. 	9 GCCAAAAAGCTCTCGGTTGCTAACTGTGGCCCTGTACAATTTTTTAAGGAATATCGCTAAT 157	9 GAIGGIGGAGGGAITTAATTTAGGAGAAITCIGGAGAGCTCAGTTTAICIGGTGAITAIGGA 163	9 GATATTATTTTCGATGGGAATCTTAAAAGAACAGCCAAAGAAGAATGCTGCCGATGTTAAT 1691 	99 GGCGTAACTGTGTCCTCACAAGCCATTTCGATGGGATCGGGAGGGA

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2359 GGGAATGACATGCCTAAGTATGGCTATCAAGGAAGCTGGAAGCTTGCGTGGGATCCTAAT GGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAAGATTATGTAGTGTGTCGTTCCAAT 2119 TTAGCAAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGCGCAAGATTCTCATCCT CGGIATATIAGIGGGGTIATICCTIAGGAGCAAACICCTACTIIGGAICAICGAIGTIT 461 ArgalarysAlaGlyHisGlnIleLeuPheAsnAspProIleGluMetAlaAsnGlyAsn AGAGCTAAAGCAGGCATCAGATTCTCTTTAATGATCCCATCGAGATGGCAAACGGAAAT 2479 (

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                                                                                    CCTTTCGTGCAAGCTGAGTTTTCTTATGCCGATCATGAATCTTTTACAGAGGAAGGCGAT
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immunogenic; infection; Chlamydia trachomatis; immune; vaccine;
gene therapy; antibacterial.
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06-AUG-2002; 2002GB-00018233.
14-AUG-2002; 2002GB-00018924.
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N-PSDB; ADD43707.
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nucleic acid,

New immunogenic composition having a protein or encoding

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The invention relates to a novel immunogenic composition comprising a protein or nucleic acid, and an adjuvant, where the protein or nucleic acid comprises any of 131 fully defined amino acid or nucleotide acid comprises any of 131 fully defined amino acid or nucleotide acid comprises any of 131 fully defined amino acid or nucleotide acid of identity to it, or their fragments. The protein and/or nucleic acid of the immunogenic composition is useful in the manufacture of a medicament or prevention of infection due to Chlamydia trachomatis. The infection is treated or prevented by the medicament clamentary body, or for neutralising C. trachomatis elementary bodies, hence the immunogenic composition can be used for the diagnosis of C. immunogenic compositions can also be used for the diagnosis of C. trachomatis infection. The nucleic acids of the immunogenic compositions can be used to treat disorders by gene therapy. The immunogenic compositions can be used activity. This sequence represents one of the immunogenic properties of the
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for diagnosing, preventing and/or treating Chlamydia trachomatis
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Matches:
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                                          Claim 6; SEQ ID NO 1; 164pp; English
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98.8%
97.0%
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Pred. No.:
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GGGAATGAGATGCCTAAGTATGGCTATCAAGGAAGCTGGAAGCTTGCGTGGGATCCTAAT GGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAAGATTATGTAGTGTGTCGTTCCAAT TIGITICGGAGATGCGTTTATCCGTGCTAGCTACGGTTTGGGAATCAGCATATGAAAACC CATCATGCTTGCATAGGATCCGTTTATCTATCTACCCAACAAGCTTTATGTGGATCCTAT GATTTGGATGATACAGCTTATGATAGGTATGATTGGCTAGGTTCTAATCAAAAAATCAAT 621 AspleudspaspThralaTyraspargTyraspTrpLeuGlySerAsnGlnLysIleAsp

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Matches:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   immunogenicity; antigen; vaccine; chlamydia trachomatis infection; antibacterial; gene therapy.
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25-AUG-2003; 2003US-0497649P.
26-EBB-2004; 2004GB-00002236.
01-JUN-2004; 2004US-0576375P.
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                    GATGGTGGAGCGATTTATTTAGGAGAATCTGGAGAGCTCAGTTTATCTGCTGATTATGGA
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                                                                           chlamydia trachomatis infection; antibacterial; vaccine.
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                                                      trachomatis protein - SEQ
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06-AUG-2002, 2002EP-0018233.
14-AUG-2002, 2001EP-00218924.
12-DEC-2002, 2002WO-IB005761.
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(RATT/) RATTI G.
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06-AUG-2002; 2002EP-00182233.
14-AUG-2002; 2001EP-00218924.
12-DEC-2002; 2002WO-IB005761.
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                       New immunogenic composition comprising Chlamydia trachomatis protein or its encoding nucleic acid, useful for immunizing against, or treating or preventing chlamydial infection.
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                                                                                                                                                                                                                                                                           1 MetGlnThrSerPheHisLysPhePheLeuSerMetIleLeuAlaTyrSerCysCysSer
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TCTCTAACAAGTAATATAGAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCT 3378
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                                             941 AspAlaTyrArgThrIleSerGlyThrGlnThrThrLeuLeuSerHisGlnGluThrTrp
GATGCTTATCGCACCATCTCTGGTACTGAGACAACGCTCCTATCCCATCAAGAGACATGG
                                    New immunogenic composition comprising Chlamydia trachomatis
its encoding nucleic acid, useful for immunizing against, or
preventing chlamydial infection.
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06-MG-2002; 2002EP-0018233.
14-AWG-2002; 2001EP-0018924.
12-DEC-2002; 2002WO-IB005761.
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New immunogenic composition comprising Chlamydia trachomatis its encoding nucleic acid, useful for immunizing against, or preventing chlamydial infection.
                                                           12-DEC-2001; 2001GB-00029732.
06-AUG-2002; 2002EP-00182233.
14-AUG-2002; 2001EP-00218924.
12-DEC-2002; 2002WO-IB005761.
                                              16-DEC-2004; 2004US-00498327
      Chlamydia trachomatis
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N-PSDB; AEA19007.
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                    The invention comprises an immunogenic composition for the treatment of prevention of a Chlamydia trachomatis infection. The immunogenic composition contains a Chlamydia trachomatis protein or its encoding nucleic acid. The immunogenic composition of the invention is useful treating or preventing chlamydial infection. The present amino acid sequence represents a Chlamydia trachomatis protein of the invention. NoTE: The present sequence is not shown in the specification, but was obtained from the USPTO website sequence.
                                                                                                                                                                                                                                                                                                                                            382 ATGCAAACGTCTTTCCATAAGTTCTTTCTATGATTCTAGCTTATTCTTGCTGCTCT
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Claim 13; SEQ ID NO 9; 90pp; English.
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chlamydia trachomatis infection; antibacterial; vaccine.

SEQ ID

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Chlamydia trachomatis protein

(first entry)

28-JUL-2005

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standard; protein; 1013

AEA19006

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       The invention comprises an immunogenic composition for the treatment of prevention of a Chlamydia trachomatis infection. The immunogenic composition contains a Chlamydia trachomatis protein or its encoding nucleic acid. The immunogenic composition of the invention is useful ftreating or preventing chlamydial infection. The present amino acid sequence represents a Chlamydial trachomatis protein of the invention. NOTE: The present sequence is not shown in the specification, but was obtained from the USPTO website.
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14-AUG-2002; 2001EP-00218924.
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ATCAAT	SACTCTA ThrLeu	CCCTAAT	FAATCCT	AGATATA uAspile	AGGATTA gGlyLeu	GGGATAT nGlyTyr	GATGTTT rMetPhe	TTCCAAT gserasn	ATCCTAT ySerTyr	GAAAACC tLysThr	TGGAGAG	GTTGCGT uLeuArg	AGGCGA1	AGTGAAC	TATCIG	AGACATGO uThrTr	GTATGC
ATCAAAA snGlnLy	CAGATTT erAsple	CGTGGGA: aTrpasi	CTGGGTA hrGlyTy	CCATTTT erilete	ATTGTCG yrCysar	TAGGTCA euGlyGl	GATCATC	ngngncg alcysAr	TATGTGG euCysGl	AGCATAT	GTCTGGC ysteuva	TGAATG	ACAGAGGA hrglug]	CTGTTGC	SCGGCTT 31yAlaTy	CATCAAG	GATCTA
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TTGGCTA pTrpLeu	AGCTAAT rAlaasn	MAGCTGG ySerTrp	TACATGG	TAGTTTA inSerteu	GGATGG aspGly	ATGACCGC BASPATG	PAAACTCC	CTAAAGAT srlysasi	CTACCCA ::: erThrLys	ACGGGTT yrGlyPhe	GTTGGGA: rgTrpAsi	CATCTAA(ATCATGA sphisGl	TAAATCT:	AATATAG yeTyrSe	CAACGCT hrThrLe	GAGTTGT :: lyvalil
GGTATGA \rgTyrAs	AGCCCCC ::: 3lnProSe	rarcaage	TGAAAGC	JTTCCAAP	GCAAGTGT aServe	rrcrarcy PheTyrH	TTAGGAG(LeuGlyA)	GGTAGATO	TATCTATO	GCTAGCT	GATGTTC Aspvala	ATTACTO	3019 CCTTTCGTGCAAGCTGAGTTTTCTTATGCCGATCATGAATCTTTTACAGAGGAAGGGGAT 3071 	CATCTCC : 'HisLeuM	CCTAATA ProAsnL	racrgaga ::: ThrGlnT	AGACATG
rtatgata aTyraepa	AGGGACTZ JGlyThro	STATGGC sTyrGly	FTATACT oTyrThri	TTCTTTG	AATTCAA(GAATTTC	TTATTCC yTyr8er	AGTATTT uValPhe	ATCCGTT yServal	TATCCGT ::: eLeuArg	GGAGAGG uGluSer	CATTGTG oileval	GTTTTCT uPheSex	AGAGCGGA :: :gSerGly	STACACAT		ATTTAGO
ATACAGC spThrala	TACAGTT	TGCCTAA etProLy	ATGGTCC snGlyPr	GAGTAGC rgvalal	ATTCAGC	GAGTTTC	GTGGGGG erGlyGl	TTACCGA	GCATAGG	AATGCGTT AspalaPh	rrrgcaga healag	GATTACC	CAAGCTG	GCATTCAJ AlaPheA	TGTTCTAC	CGCACCA' ArgThrI	GCCTTTC AlaPheH
TTGGATG Leuaspa	CTGAAAT LeuLysL	AATGAGA AsnGluM	GCAAATA AlaAsnA	CCTGAGC Proglua	TCTGCGC SerAlaH	SGTTTCTG ValSerG	STATATTA JTyrileS	CTAGCA1	rcargcrr BHisAlaC	STTCGGAC PheGly	ATATACA: rTyrThr	TGGAGCG eGlyval(TTTCGTG oPheval	AGCTCGG nAlaArg	TGATCGA eAsparg	TGCTTAT palaTyr	AACAGAT rThrasp
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                                           GAGAACATACGGACTTCTACAAATGGGGCAGCTCTAAGTAATAGCGCTGCTGATGGACTG
TTAAATGGGGGGGATATGCAGCAGAAATCATGGTTCCTCAAGGAATTTACGATGGGGAG
         ACGITAACTGTATCATTTCCCTATACTGTTATAGGAGATCCGAGTGGGACTACTGTTTTT
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   TCTCTAACAAGTAATATAGAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCT
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                                                                                           AEA19010 standard; protein; 1013
                                                                                                                                                Chlamydia trachomatis protein
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06-MG-2002; 2002EP-0018233.
14-AMG-2002; 2001EP-00218924.
12-DEC-2002; 2002WO-IB005761.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New immunogenic composition comprising Chlamydia trachomatis protein oits encoding nucleic acid, useful for immunizing against, or treating preventing chlamydial infection.
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         12-DEC-2001; 2001GB-00029732.
06-AUG-2002; 2002EP-0018233.
14-AUG-2002; 2001EP-0018924.
12-DEC-2002; 2002WO-IB005761.
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protein or
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GATGCTTATCGCACCATCTCTGGTACTGAGACAACGCTCCTATCCCATCAAGAGACATGG
                                                                                                                                                                                                               TCTCTAACAAGTAATATAGAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCT
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                                   CAAGCTCGGGCATTCAAGAGCGGACATCTCCTAAATCTATCAGTT
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06-AUG-2002; 2002EP-00182233.
14-AUG-2002; 2001EP-00218924.
12-DEC-2002; 2002WO-1B005761.
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N-PSDB; AEA18999.
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                                                         TTAGCAAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGCGCAAGATTCTCATCCT
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	obtained from the USPTO website -	qa	281 AspGlyAsnVal
8	jdata.uspro.gov/sequence.ncmrrbocip=zousoitosi.	ò	1282 AATAATGGAAAA
))	sequence tots AA;	셤	301 AsnAsnGlyLys
Alignme Pred. P Score: Percent		& 8	1342 CAACCAACAAGT(:: 321 GlnProThrAsn(
Best Lk Query P DB:	96.5% Mismatches: 65.0% Indels: 9 Gaps:	& :	1402 TTCTGTAAGAAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention comprises an immunogenic composition for the treatment of prevention of a Chlamydia trachomatis infection. The immunogenic composition contains a Chlamydia trachomatis protein or its encoding nucleic acid. The immunogenic composition of the invention is useful treating or preventing chlamydial infection. The present amino acid sequence represents a Chlamydial trachomatis protein of the invention. NOTE: The present sequence is not shown in the specification, but was obtained from the USPTO website
                                                                                                                                                                                                                                                                                                                                                                                                              New immunogenic composition comprising Chlamydia trachomatis its encoding nucleic acid, useful for immunizing against, or preventing chlamydial infection.
                                                                                                                chlamydia trachomatis infection; antibacterial; vaccine
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          AEA19014 standard; protein; 1013
                                                                                        Chlamydia trachomatis protein
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06-AUG-2002; 2002EP-00182233.
12-DEC-2002; 2001EP-00218924.
12-DEC-2002; 2002WO-IB005761.
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(RATT/) RATTI G.
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                     CATCATGCTTGCATAGGATCCGTTTATCTATCTACCCAACAAGCTTTATGTGGATCCTAT
                                HiBHiBAlaCysIleGlySerValTyrLeuSerThrLysGlnAlaLeuCysGlySerTyr
                                                              TIGITCGGAGATGCGTTTATCCGTGCTAGCTACGCGTTTGGGAATCAGCATATGAAAACC
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The invention relates to an isolated Chlamydia species high molecular weight (HMW) protein having an apparent mol. wt. of 105-115 kD as determined by SDS-PAGE. The HWW proteins and nucleic acid molecules can be used for preventing, treating or ameliorating a disorder related to Chlamydia e.g. bacterial infection, conjunctivitis, urethritis, lymphogranuloma venereum (LGV), cervicitis, epididymitis, endometritis, pelvic inflammatory disease (PID), salphngitis, tubal occlusion, cervical cancer, infertility, arteriosclerosis and atherosclerosis. The products can also be used for detection and disagnosis. The present sequence represents a C. trachomatis HWW protein
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                                           GATGCTTATCGCACCATCTCTGGTACTGAGACAACGCTCCTATCCCATCAAGAGACATGG
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                                                                                                                                                                                          for preventing pelvic tract infections,
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 Chlamydia, vaccine, infection, fusion protein, antigen, pelvic inflammatory disease, trachoma, atherosclerosis, heart d acute respiratory tract infection, Capl, CT529; OMCB; polymorphic membrane protein; pmp; thiol specific antioxidant;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chlamydial infection; Chlamydia; vaccine; detection; diagnosis; antigen; antibacterial; immunostimulant; immune response;
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animal. Methods from the present invention can be used: for detecting t presence of Chlamydia in a patient; to stimulate and/or expand T cells specific for a chlamydia protein; and for treatment of a Chlamydia infection. ABL92394 to ABL92709 and ABB94096 to ABB94374 represent sequences used in the exemplification of the present invention
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The present invention relates to new nucleic acid sequences and the proteins encoded by the nucleic acid sequences. The encoded proteins comprise an immunogenic portion of a Chlamydia antigen. The encoded proteins are useful for the serodiagnosis and treatment of Chlamydia infection. Chlamdiae are intracellular bacterial pathogens that are responsible for a wide variety of human infections. C. trachomatis infection is one of the most common sexually transmitted diseases and can lead to pelvic inflammatory disease (PID), resulting in tubal obstruction and infertility. Trachoma due to ocular infection with C. trachomatis is the leading cause of preventable blindness worldwide. C. pneumonia is a major cause of acute respiratory tract infections in humans and is also thought to play a role in the pathogenesis of atherosclerosis and correct interesting is a protein isolated in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chlamydia infection which comprises amino
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Misc-difference 981
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 C. trachomatis pmpG gene protein.

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AAB13633;
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Scholler

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Skeiky YAW,

Probst P, Bhatia A, WPI; 2001-374831/39

(CORI-) CORIXA CORP

03-DEC-1999; 99US-00454684. 19-APR-2000; 2000US-00556877. 20-JUN-2000; 2000US-00598419.

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Protein encoded by Chlamydia trachomatis pmpG gene
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The present sequence is provided in a specification relating to compounds and methods for the treatment and disgnosis of chlamydial infection. The compounds provided include polypeptides and fusion proteins comprising immunogenic portions of Chlamydia antigens and DNA sequences encoding such polypeptides. They are useful for vaccinating against chlamydial infection, which causes pelvic inflammatory disease, trachoma, acute respiratory tract infections, atherosclerosis and heart disease
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                                                                                        Chlamydia polypeptides and fusion proteins useful for preventing pelvic inflammatory disease, trachoma, acute respiratory tract infections, atherosclerosis and heart disease.
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                                                                                                                                                                         The present invention describes compositions comprising a Chlamydia Capil protein and methods for the diagnosis and therapy of Chlamydia infection. Chlamydia DNA and protein sequences from the present invention can have antibacterial and immunostimulant activities, and can be used in vaccines. Compounds from the present invention can be used for eliciting an immune response, specifically stimulating a Chlamydia infection response or inhibiting the development of a Chlamydia infection in an animal. Methods from the present invention can be used: for detecting the spesence of Chlamydia in a patient; to stimulate and/or expand T cells specific for a Chlamydia protein; and for treatment of a Chlamydia infection. ABL92194 to ABL92709 and ABB94096 to ABB94374 represent sequences used in the exemplification of the present invention.
                                        3232 ACGCTCCTATCCCATCAAGAGACATGGACAACAGATGCCTTTCATTTAGCAAGACATGGA 3291
                                                                                                        3292 GTTGTGGGTTAGAGGATCTATGTATGCTTCTCTAACAAGTAATATAGAAGTATATGGCCAT 3351
                                                          901 TyrSerPheMetAlaAlaTyrIleCysAspAlaTyrArgThrIleSerGlyThrGluThr 920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chlamydial infection; Chlamydia; vaccine; detection; diagnosis; antigen; antibacterial; immunostimulant; immune response; Chlamydia-specific T-cell response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel compositions comprising Chlamydia Capl protein and its use in the treatment of Chlamydia infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bhatia A;
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23-APR-2001; 2001US-00841132
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982 978 2

Length: Matches: Conservative:

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Percent Similarity:

Alignment Scores:

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US-10-	701-844-1 (1-4435) x ABB94172 (1-982)
ò	TGGTTCCTCAAGGAATTTACGATGGGGAGACGTTAACTGTATCATTTCCCTATACTGTT 5
qq	
È	AGGAGATCCGAGTGGGACTACTGTTTTTCTGCAGGAGAGTTAACATTAAAAAATCTT 5
ą	roserdlyThrThrValPheserAlaGlyGluLeuThrLeuLyBAsnLeu 4
È	592 GACAATTCTATTGCAGCTTTGCCTTTAAGTTGTTTTGGGAACTTATTAGGGGAGTTTTACT 651
д	inserilealaalaLeuProLeuSerCysPheGlyAsnLeuLeuGlySerPheThr 60
ò	GTTTTAGGGAGAGGACACTCGTTGACTTTCGAGAACATACGGACTTCTACAAATGGGGCA
qq	euglyArgdlyHisSerLeuThrPheGluAsnIleArgThrSerThrAsnGlyAla 80
Š	GCTCTAAGTAATAGCGCTGCTGATGACTGTTTACTATTGAGGGTTTTAAAGAATTATCC 7
q	userAsnserAlaAlaAspGlyLeuPheThrIleGluGlyPheLysGluLeuSer 1
ò	772 TITICCAATICCAATICATIACTIGCCGTACTGCCTGCTGCAACGACTAATAAGGGTAGC 831
ପ୍ର	serAsnCysAsnSerLeuLeuAlaValLeuProAlaAlaThrThrAsnLysGlySer 1
ò	832 CAGACTCCGACGACAACATCTACACCGTCTAATGGTACTATTATTCTAAAACAGATCTT 891
qq	-
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qq	141 LeuLeuLeuAsnAsnGluLysPheSerPheTyrSerAsnLeuValSerGlyAspGlyGly 160
ò	CCAAGAA 10
g	1 AlaileAspAlaLysSerLeuThrValGlnGlyileSerLysLeuCysValPheGlnGlu 1
È	1012 AATACTGCTCAAGCTGATGGGGGGGGGGGCTTGTCAAGTGACTCACCTGCTATGGCT 1071
qq	eralametala 200
ò	1072 AACGAGGCTCCTATTGCCTTTGTAGCGAATGTTGCAGGAGTAAGAGGGGAGGGA
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ò	1132 GCTGTTCAGGATGGGCAGCAGCAGTGTCATCATCATCATCACAGAAGATCCAGTAGTA 1191
đ	valginAspólyginGinGlyValSerSerSerThrSerThrGluAspProValVal 24
ò	IIAGAGTTTGATGGGAACGTAGCCCGAGTAGGAGGAGGG 12
d d	erbheSerargaanThralaValGluPheAspGlyAsnValAlaargValGlyGlyGly 260
ò	CITICCIGAAIAAIGGAAAAACCIIGIITICICAACAAT 13
ą	61 ileTyrSerTyrGlyAsnValAlaPheLeuAsnAsnGlyLysThrLeuPheLeuAsnAsn 28
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qq	AlaSerProValTyrileAlaAlaLysGlnProThrSerGlyGlnAlaSerAsnThr 300
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ą	aGlySer 320
È	2 AATAACTCTGGATCAGTTTCCTTTGATGGAGAGGGAGTAGTTTTCTTTAGTAGCAATGTA 14
9 0.	321 AsnAsnSerGlySerValSerPheAspGlyGluGlyValValPhePheSerSerAsnVal 340

Qy 2572 GATGGGGGTCTTATTGTC	Db 701 AmpdlyArgSerTyrCymA		Oy 2692 AACTCCTACTTTGGATCAT 	Qy 2752 AAAGATTATGTAGTGTGTC	c	781	Qy 2872 GGGTTTGGGAATCAGCATA	Qy 2932 TGGGATAATAACTGTCTGG	Db 821 TrpAspAsnAsnCysLeuA		Cy 3052 CATGAATCTTTTACAGAGG	Db 861 HisGluSerPheThrGluG Ov 3112 AATCTATCAGTTCCTGTTG	1	Oy 3172 TATAGCTTTATGGCGGCTT	М		Qy 3292 GTTGTGGTTAGAGGATCTA			Qy 3412 CGGTTC 3417	Db 981 ***Phe 982	RESULT 29 AAB13639 ID AAB13639 standard; protein;	XX AC AAB13639;	XX DT 02-FEB-2001 (first entry) XX		KW Chlamydial infection; sexual KW pelvic inflammatory disease; KW trachoma; blindness; acute machine trachoma; blindness; acute machine trachoma; blindness; acute machine trachoma; blindness; acute machine
1492 GCTGCTGGGAAAGGGGGAAGCTATTTATGCCAAAAAGCTCTCTCGGTTGCTAACTGTGGCCCT 1551		1552 GTACAATTTTTAAGGAATATCGCTAATGATGGTGGAGCGATTTATTT	GACCICAGITTATCTGCTCAITATGGAGATATTATTTTCGATGGGAATCTTAAAAGAACA	381 GluLeuSerLeuSerAlaAspTyrGlyAspIleIlePheAspGlyAsnLeuLysArgThr 400	AlalysGluAsnalaAlaAspValAsnGlyValThrValSerSerGluAlaIleSerMet	1732 GGATCGGGGGAAATAACGACATTAAGAGCTAAAGCAGCATCAGATTCTCTTTAAT 1791 	GATCCCATCGAGATGGCAAACGGAAATAACCAGCCAGCGCAGTCTTCCAAAA	441 AspProIleGluMetAlaAsnGlyAsnAsnGlnProAlaGlnSerSerLySLeuLeuLys 460		1912 TACCAAAATGTTACGATAGAGGAAGGATTGTTCTTCGTGAAAAGGCAAAATTATCA 1971	fyrdinamivalinitiedindindiyaryilevalledaryddingarulysaddygdeddedededededededdaryddanga		2032 ITIGIAACTCCACAACACCACAACAGCCTCCTGCCGCTAATCAGTTGATCAGCTTTCC 2091	ATICTECATTACTACTATTCTTTCTTTCTTTCTTTCTTTCTTCTCTCTTCCTCC	541 AsnLeuHisLeuSerLeuSerSerLeuLeuAlaAsnAsnAshAlaValThrAsnProProThr 560	2152 AATCCTCCAGCGCAAGATTCTCATCCTGCAGTCATTGGTAGCACAACTGCTGGTTCTGTT 2211	ACAATTAGTGGGCCTATCTTTTTTGGGATTTGGATGATACAGGTTATGATGATATT	581 ThrileSerGlyProilePhePheGluAspLeuAspAspThrAlaTyrAspArgTyrAsp 600	2272 TGGCTAGGTTCTAATCAAAATCAATGTCCTGAAATTACAGTTAGGGACTAAGCCCCCA 2331	TrpLeductysetAsmotnLystleasnvalledurysLeductnLeductyLnrLyssrrokro	2332 GCTARIGCCCCATCAGATTICACTCTAGGGGAATGAGGTGCCTAAGGATTGGGCTATCAGGA 2591 [1]	AGCTGGAAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCT	SerTrpLysLeuAlaTrpAspProAsnThrAlaAsnAsnGlyProTyrThrLeuLysAla	2452 ACATGGACTAAAACTGGGTATAATCCTGGGCCTGACCGAGTAGCTTCTTTGGTTCCAAAT 2511	actima accepta to Continua da tambén de la Continua de	
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GCTATAGATGCTAAGAGCTTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAA 1011
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                  TTGTTACTCAATAATGAGAAGTTCTCATTCTATAGTAATTTAGTCTCTGGAGATGGGGGA
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                                                                                                                                                                                                                                                                                                                                            The present invention relates to new nucleic acid sequences and the proteins encoded by the nucleic acid sequences. The encoded proteins comprise an immunogenic portion of a chlamydia antigen. The encoded proteins are useful for the serodiagnosis and treatment of chlamydia infection. Chlamdiae are intracellular bacterial pathogens that are responsible for a wide variety of human infections. C. trachomatis infection is one of the most common sexually transmitted diseases and can lead to pelvic inflammatory disease (PID), resulting in tubal obstruction and infertility. Trachoma due to ocular infection with C. trachomatis is the leading cause of preventable blindness worldwide. C. pneumonia is a major cause of acute respiratory tract infections in humans and is also chought to play a role in the pathogenesis of atherosclerosis and coronary heart disease. The present sequence is a protein isolated in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTCTAAGTAATAGCGCTGCTGATGGACTGTTTACTATTGAGGGTTTTAAAGAATTATCC 771
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which comprises amino
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                                                                                                                                                                                                                                                                   Isolated polypeptide for diagnosis and treatment of comprises immunogenic portion of Chlamydia antigen, acid sequence encoded by polynucleotide sequence.
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Matches:
Conservative:
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 antibacterial
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99US-00288594.
99US-00410568.
99US-00426571.
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coronary heart disease;
                          Chlamydia trachomatis
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Best Local Similarity:
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                                                  WO200034483-A2
                                                                                                                            08-DEC-1998;
08-APR-1999;
01-OCT-1999;
22-OCT-1999;
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Pred. No.:
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05-DEC-2001; 2001US-00007693.
15-JUL-2002; 2002US-00197220.
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for diagnosing or treating Chlamydial infections, particularly as vaccines for treating or preventing Chlamydial infections, e.g. pelvic inflammatory disease.

2; SEQ ID NO 169; 275pp; English

The present invention describes compounds and methods for diagnosing and treating Chlamydial infection. Chlamydia polynucleotide and protein acquences have antibiotic, antiinfalmmatory antiinfertility, cardiant, antiarteriosclerotic and ophthalmological activities, and can be used in compositions or methods from the present invention can be used for the serodiagnosis or treatment of Chlamydial infections, particularly in humans. The polynucleotides, proteins or compositions are particularly in humans. The polynucleotides, proteins or compositions are particularly stimulating and/or expanding T cells specific for a Chlamydia protein. Specifically, the polynucleotides, proteins or compositions are useful contenting the polynucleotides, proteins or compositions are useful as pecifically, the polynucleotide, proteins or compositions are useful confirmatory disease (which results in tubal obstruction and infertility in women), male infertility, ocular infections including conservating characty tract infections, atherosclerosis, or conservation of the present invention.

Sequence 670 AA;

1003 ITCCAAGAAATACTGCTCAAGCTGATGGGGGAGCTTGTCAAGTAGTCACCAGTTTCTCT 1062 1 AlaGlulleMetIleProGlnGlyIleTyrAspGlyGluThrLeuThrValSerPhePro 21 TyrThrVall1eGlyAspProSerGlyThrThrValPheSerAlaGlyGluLeuThrLeu 121 AsnGlySerGlnThrProThrThrThrSerThrProSerAsnGlyThrIleTyrSerLys ACAGATCTTTGTTACTCAATAATGAGAAGTTCTCTATTGTATAGTAATTTAGTCTCTGGA ThraspLeuLeuLeuLeudsnasnasnasnasnaspheserpheTyrSerasnLeuValSerGly GATGGGGGAGCTATAGATGCTAAGAGCTTAACGGTTCAAGGAATTAGCAAGCTTTGTGTC AAAAATCTTGACAATTCTATTGCAGCTTTGCCTTTAAGTTGTTTTGGGAACTTATTAGGG AGITITIACIGITITIAGGGAGAGACACICGITGACITITCGAGAACATACGGACTICTACA AATGGGGCAGCTCTAAGTAATAGCGCTGCTGATGGACTGTTTACTATTGAGGGTTTTAAA 161 AspGlyGlyAlaIleAspAlaLysSerLeuThrValGlnGlyIleSerLysLeuCysVal GCAGAAATCATGGTTCCTCAAGGAATTTACGATGGGGAGACGTTAACTGTATCATTTCCC 670 651 11 7 Length: Matches: Conservative: Mismatches: Indels: Gaps: US-10-701-844-1 (1-4435) x ADD42756 (1-670) 5.84e-289 3336.50 98.8% 97.2% 42.3% Percent Similarity: Best Local Similarity: Query Match: DB: Scores: 523 883 141 943 463 41 61 703 81 763 101 583 643 Alignment & Pred. No.: g 요 셤 셤 셤 ઠે ò ò ò ద 셤 ð Š 셤 ઠે 셤 ઠે ઠે δ

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                                                                                                                                                                                                                                                                                                                                                                                                                                    Vaccine; eye disease; conventional trachoma; nonendemic trachoma; paratrachoma; inclusion conjunctivitis; genital disease; perihepatitis; nongonococcal uretritis; epidymitis; cervicitis; salpingitis; bartholinitis; pneumopathy; venereal lymphogranulomatosis.
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                                      AsnProProThrAsnProProAlaGlnAspSerHisProAlaIleIleGlySerThrThr
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                         AATCCTCCTACCAATCCTCCAGCGCAAGATTCTCATCCTGCAGTCATTGGTAGCACAACT
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                                                   Chlamydia; high molecular weight protein; HWW protein; urethritis; bacterial infection; conjunctivitis; lymphogramuloma venereum; LGV; cervicitis; epididymitis; endometritis; pelvic inflammatory disease; aslpingltis; tubal occlusion; infertility; cervical cancer; arteriosclerosis; atherosclerosis.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to an isolated Chlamydia species high molecular weight (HMW) protein having an apparent mol. wt. of 105-115 kD as determined by SDS-PAGE. The HMW proteins and nucleic acid molecules can be used for preventing, treating or ameliorating a disorder related to Chlamydia e.g. bacterial infection, conjunctivitis, urethritis, lymphogranuloma venereum (LGV), cerricitis, epididymitis, endometritis, pelvic inflammatory disease (PID), salpingitis, tubal occlusion, cervical cancer, infertility, arteriosolerosis and atherosclerosis. The products can also be used for detection and disagnosis. Sequences AAY16740-Y16752 represent Chlamydia HMW protein fragments
                                                                                                                                                                                                                                                                                                 Chlamydia; high molecular weight protein; HWW protein; urethritis; bacterial infection; conjunctivitis; lymphogranuloma venereum; LGV; exricitis; epididymitis; endometritis; pelvic inflammatory disease; PID; salpingitis; tubal occlusion; infertility; cervical cancer; arteriosclerosis; atherosclerosis.
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                                                                                                                                                                                                                                                                               AAY36754-Y17949 are encoded by open reading frames (ORPS) of the genome of Chlamydia trachomatis (see AAZ01425). The polypeptides can be used as vaccines against Chlamydia trachomatis. Antisenses and ribozyme sequences can also be used to control growth of the microorganism. Chlamydia trachomatis is responsible for a large number of diseases, e.g. eye paratrachoma, and inclusion conjunctivitis; genttal diseases such as nongonococcal uretritis, epidymitis, cervicitis, salpingitis, were nongonococcal uretritis, the polypeptides of the invention may be of use in treating these diseases
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97FR-00015041.
97FR-00016034.
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 141 IlePheTrpAspAsnSerValGlyTyrSerProLeuSerThrValProThrSerSerSer 160
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                                                                                                                                                                                                                                                                                                                                                                                                         Chlamydia; vaccine; infection; fusion protein; antigen; pelvic inflammatory disease; trachoma; atherosclerosis; heart disease; acute respiratory tract infection; Capl; CT529; OMCB; polymorphic membrane protein; pmp; thiol specific antioxidant; TSA.
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19-APR-2000; 2000US-00556877.
20-JUN-2000; 2000US-00598419.
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                       The present sequence is provided in a specification relating to compour and methods for the treatment and diagnosis of chlamydial infection. The compounds provided include polypeptides and fusion proteins comprising immunospenic portions of Chlamydia antispens and DNA sequences encoding such polypeptides. They are useful for vaccinating against chlamydial infection, which causes pelvic inflammatory disease, trachoma, acute respiratory tract infections, atherosclerosis and heart disease
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infection. ABL92394 to ABL92709 and ABB94096 to ABB94374 represent sequences used in the exemplification of the present invention
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                                                            402
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                                                                                                                                                      442
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel compositions comprising Chlamydia Capl protein and its use in the treatment of Chlamydia infection.
                                                                                                                                                                              TAAAGGTTCTATTGTTTTTGATTACAACTTTGCAAAAGGCAGAGGGGGGAGGCATCCTAAC
  AGTTAAAAACTGTAAAGGGAAAGTTTCTTTCACAGATAACGTAGCCTCTTGCGGAGGCGG
                                                   rValLy8AsnCysLy8GlyLy8ValSerPheThrAspAsnValAlaSerCy8GlyGlyGl
                                                                                    AGTGGTTTATAAAGGCATTGTGCTTTTCAAAGACAATGAAGGAGGCATATTCTTCCGAGG
                                                                                                  yvalvalTyrLysGlyThrValLeuPheLysAspAsnGluGlyGlyIlePheArgGl
                                                                                                                                GAACACAGCATACGATGATTTAAGGATTCTTGCTGCTACTAATCAGGATCAGAATACGGA
                                                                                                                                             Chlamydia trachomatis protein sequence SEQ ID NO:325
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23-APR-2001; 2001US-00841132.
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Length: Matches: Conservative: Mismatches: Indels:

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3571 GACGATGTTTACTTGAATGGAGACTGCGCTTTTGTCAATGTCTATGCAGGAGCTGAAGAA 3630
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                                                                        4306 GACAGGAGGCGGTGGAGGAGTTATTTGCTCTCCAGATGATTCTGTAAAGTTTGAAGGCAA
                                                                                    Chlamydia; sexually transmitted disease; PID; antibacterial;
pelvic inflammatory disease; antigen; trachoma; gynecological;
acute respiratory tract infection; atherosclerosis; male infertility;
 402 yValValTyrLysGlyThrValLeuPheLysAspAsnGluGlyGlyIlePhePheArgGl
                         GAACACAGCATACGATGATTTAAGGATTCTTGCTGCTACTAATCAGGATCAGAATACGGA
                                       Claim 13; Page 171-173; 208pp; English.
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20-JUL-2000; 2000US-0219752P.
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GACGATGTTTACTTGAATGGAGACTGCGCTTTTGTCAATGTCTATGCAGGAGCTGAAGAA 3630
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                                        GGTTCGATTATCTCAGCTAATGGCGACAATTTAACGATTACCGGACAAAACCATACATTA
                                                                                  TCATTTACAGATTCTCAAGGGCCAGTTCTTCAAAATTATGCCTTCATTTCAGCAGGAGAG
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          Novel gram-negative bacterial bleb presenting on its surface PorB membrane protein from Chlamydia trachomatis or protective antigen Chlamydia pneumoniae, useful for preventing Chlamydia infection.
                                                                                                                                                                                                 Gram-negative bacterial bleb; PorB; outer membrane protein;
Chlamydia trachomatis infection; Chlamydia pneumoniae infection;
protective antigen; antibacterial; vaccine.
                                                                                                                                                                              Chlamydia trachomatis outer membrane protein H protein.
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                                                                                                                                                          (first entry)
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N-PSDB; ABS67358.
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treating Chlamydial infection. Chlamydia polymucleotide and protein creating Chlamydial infection. Chlamydia polymucleotide and protein sequences have antibiotic, antiinflammatory, antiinfertility, cardiant, cardiant, antianterosclearotic and ophthalmological activities, and can be used in vaccines, and in gene therapy. The Chlamydia polymucleotides, proteins, compositions or methods from the present invention can be used for the serodiagnosis or treatment of Chlamydial infections, particularly in serodiagnosis or treatment of Chlamydial infections, particularly in useful for stimulating and/or expanding T cells specific for a Chlamydia protein. Specifically, the polymucleotides, proteins or compositions are useful as vaccines for treating or preventing Chlamydial infections including chelvic inflammatory disease (which results in tubal obstruction and infertility in women), male infertility, ocular infections including cause blindness), acute respiratory tract infections, atherosclerosis, or cononary heart disease. The present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New DNA and proteins comprising a portion of a Chlamydia antigen, useful for diagnosing or treating Chlamydial infections, particularly as vaccines for treating or preventing Chlamydial infections, e.g. pelvic inflammatory disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention describes compounds and methods for diagnosing and
         chlamydial infection; Chlamydia; antibiotic; antinflammatory; antinfertility; cardiant; antiarteriosclerotic; ophthalmological; vaccine; gene therapy; immune response; pelvic inflammatory disease; tubal obstruction; infertility; male infertility; ocular infection; blindness; acute respiratory tract infection; atherosclerosis;
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                                                                                                                                                                                                                                                                                                                                                                                  Skeiky YAW, Maisonneuve JL, Barth
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                                                                                                  coronary heart disease
                                                                                                                                    Chlamydia trachomatis.
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Search completed: May 13, 2006, 09:59:52 Job time : 938 secs THIS PAGE BLANK (USPTO)

Sequence Sequence

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GENERAL INFORMATION:

Publication No. US20050281847A1

GENERAL INFORMATION:

APPLICANT: Berthet, Francois-Xavier Jacques

APPLICANT: Berthet, Francois-Xavier Jacques

APPLICANT: Poolman, Jan

APPLICANT: Poolman, Jan

APPLICANT: Vincent Georges Christian Louis

TITLE OF INVENTION: Vaccine Composition

FILE REFERENCE: B45261

CURRENT APPLICATION NUMBER: US/11/103,957

CURRENT FILING DATE: 2005-04-12

PRIOR PRILING DATE: 2004-02-03

PRIOR PLING DATE: 2004-02-03

PRIOR PLING DATE: 2004-02-06

PRIOR PLING DATE: 2001-02-06

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-MODEL=frame+ n2p.model - DEV=xlp

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-Q= Abses/ABSSWBs psool/US10701844/runat_12052006_165440_26581/app_query.fasta_1
-DE=Published Applications AA New -OFMT=fastan -SUPFIX=rapbn -MINMATCH=0.1
-LOOPCL=0 -LOOPEXT=0 -UNITS=bIts -START=1 -END=-1 -MATRIX=blosum62
-LOOPCL=0 -LOOPEXT=0 -UNITS=AS -DOCALIGN=200 -THR SCORE=pct -THR MAX=100
-THR MIN=0 -ALIGN=40 -MODE=LOCAL -OUTFMT=pto -NORM=ext -HEAPSIZE=500 -MINLEN=0
-WAXEN=2000000000 -HOST=abse02p
-USRB=US10701844 @CGN 1 1 36 @runat 12052006 165440_26581 -NCEPU=6 -ICPU=3
-NO MMAP -NEG SCORES=0 -WAIT--DSPBLÖCK=100 -LONGLOG -DEV_TIMEOUT=120
-WARN TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=7
-YGAPOP=10 -YGAPEXT=7
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Sequence 21, Application US/11018868
Publication No. US20060034871A1
GENERAL INFORMATION:
APPLICANT: Chiron Corporation
APPLICANT: Grandi, Guido

US-11-018-868-21

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                                  Chlamydia trachomatis
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                                  for
APPLICANT: Ratti, Guilio
APPLICANT: Bonci, Alessandro
APPLICANT: Bonci, Alessandro
APPLICANT: Finco, Oretta
TILB OF INVENTION: Immunogenic Compositions for
FILE REPERENCE: 002441.00099 (PP23152.001)
CURRENT APPLICATION NUMBER: US/11/018,868
CURRENT FILING DATE: 2004-12-22
NUMBER OF SEQ ID NOS: 186
SOFTHARE: Patentin version 3.2
SEQ ID NO 21
                                                                                                                                                                                   Length:
Matches:
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; ORGANISM: Chlamydia trachomatis
US-11-018-868-21
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97.0%
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Best Local Similarity:
Query Match:
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; Sequence 22, Application US/11018868
; Publication No. US20060034871A1
; GENERAL INFORMATION:
; APPLICANT: Chiron Corporation
; APPLICANT: Grandi, Guido
; APPLICANT: Ratti, Guilio
; APPLICANT: Ratti, Guilio
; APPLICANT: Ratti, Guilio
; APPLICANT: Ratti, Guilio
; APPLICANT: Bonci, Alessandro
; APPLICANT: Bonci, Alessandro
; TILLE REFERENCE: 002441.00099 (PP23152.001)
; CURRENT APPLICATION NUMBER: US/11/018,868
; CURRENT FILING DATE: 2004-12-22
; NUMBER OF SEQ ID NOS: 186
; SOFTWARE: PatentIn version 3.2
; EQUID NO 22
; ENGINE OF TABLE 
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121 LysGlyMetIleSerGlyLysThrValSerIleSerGlyAlaGlyGluValIlePheTrp 140
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                                          3955 AAAGGGTCTATTTTTTTTCTGTAGACTTAGTTTGGAGATCTCAGGCGTCAAAAAAGGGGGTC
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; ORGANISM: Chlamydia trachomatis
US-11-018-868-22
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                                                 3378
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      961 ThrThraspAlaPheHisLeuAlaArgHisGlyValIleValArgGlySerMetTyrAla 980
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SEQUENCE 41, Application US/11103957

PUBLICACTUM. WO. US20050281847A1

GENERAL INFORMATION:
APPLICANT: Berthet, Francois-Xavier Jacques
APPLICANT: Lobet, Yves
APPLICANT: Poolman, Jan

PRIME REFERENCE: B45261

CURRENT APPLICATION WUMBER: US/11/103,957

CURRENT FILING DATE: 2005-04-12

PRIOR PPLICATION NUMBER: US/10/467,534

PRIOR APPLICATION NUMBER: PCT/EP02/01356

PRIOR APPLICATION NUMBER: GB 0103169.9

PRIOR PLING DATE: 2001-02-08

NUMBER OF SEQ ID NOS: 108

SOFTWARE: PASEC for Windows Version 4.0

SEQ ID NO 41

LENGTH: 1016
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US-11-103-957-41
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Query Match: 20.2\$ Indels: 15 DB: 11 Gaps: 2 US-10-701-844-1 (1-4435) X US-11-018-868-22 (1-1016) Control of the control	Qy 3571 GACGATGTTTACTTGAATGGAGACTGCGCTTTTGTCAATGTCTATGCAGGAGCTGAAGAA 3630 Db 41 ABPABPValTyrLeuAanGlyAapCysAlaPheValAanValTyrAlaGlyAlaGluAan 60 Qy 3631 GGTTCGATTACTCAGCTAATTTTAACGATTACCGGACAAAACCATACATTA 3690 Db 61 GlySerIleIleSerAlaAsnGlyAspAsnLeuThrIleThrGlyGlnAsnHisThrLeu 80 Qy 3691 TCATTTACAGATTCTCAAGGGCCAGTTCTTCAAAATTATGCCTTCATTTCAGCAGGAGAG 3750 Qy 1	Qy 3751 ACACTACTCTGAGGATTTTTCGAGGTCTCTCGAAAATGTTTCTTGCGGAGAA 3810 Db 101 ThrLeuThrLeuLysAspPheSerSerLeuMetPheSerLysAsnValSerCysGlyGlu 120 Qy 3811 AAGGGAATGATTTCCGGAGATATTTCCGGAGCGAGCGAGTTTTTTTGG 3870 Db 121 LysGlyMetIleSerGlyLysThrValSerTleSerGlyAlaGlyGluValIlePheTrp 140 Qy 3871 GATAACTCCGTGGGGTATTCTCCTTTATCTACTGGCGACCTCATCATCACCGCCT 3930 Qy 3871 GATAACTCCGTGGGGTATTCTCCTTTATCTACTGGCGACCTCATCATCACCGCCT 3930 Db 141 AspAsnSerValGlyTytSerProLeuSerIleValSerThrProThrProPro 160 Qy 3931 GGT	Qy 4015 AAAGGGTCTATTTTCTGTAGAGATTTTGGAGATCTCAGGGGTCAAAAAAGGGGTC 4014	Qy 4135 CTGTAAAGGGAAAGTTTCTTTCACAGATAACGTAGCCTCTTGCGGAGGGGGGGG

q	159 HisasnTyrLeuPheThralaPheGluGluAsnSerSerLysGlyAsnGlyGlyAlalle 178	a	
È	1042 CAAGTAGTCACCAGTTTCTCTGGCTAAGGCTCCTGTTGCCTTTGTAGGGAT 1101	∂ . සි	2047 CCACCACAACAGCCTCCTC
eg G	179 GinalaGinThrPheSerLeuSerArgAsnValSerProileSerPheAlaArgAsn 197	\	2107 CTTTCTTCTTTGTTAGCA
ò	1102 GTIGCAGGAGTAAGAGGGGAGGGATIGCIGCIGITCAGGAIGGCCAGCAGGAGGGIGICA 1161	7 A	::: 466 ThrLeuSerlleProLeu
QQ Q	198 ArgalaAspLeuAsnGlyGlyAlaIleCysCys 208	à	2167 GATTCTCATCCTGCAGTC
È	1162 TCATCTACTTCAACAGAAGATCCAGTAGTTATTTTCCAGAAATACTGCGGTAGAGTTT 1221	· A	475
q	208 208		2227
ò	1222 GATGGGAACGTAGCCCGAGTAGGAGGAATTTACTCCTACGGGAACGTTGCTTCCTG 1281	: 名	486 AsnLeuSerIleGlnLys
qq	209 217	ò	2266 TATGATTGGCTAGGTTCT
È	1282 AATAATGGAAAAACCTTGTTTCTCAACAATGTTGCTTCTCCTGTTTACATTGCTGCTAAG 1341	: 셤	
Ср		ò	2326 CCCCCAGCTAATGCCCCA
È	1342 CAACCAACAAGAGGACAGGCTTCTAATACGAGTAATAATTACGGAGATGGAGGAGTATC 1401	셤	::: 522SerLysGluGln
셤	223ThrGlyAenSerAlaThrAenGlyGlyAlaile 233	ò	2380 GGCTATCAAGGAAGCTGG
È	1402 TTCTGTAAGAATGGTGCGCAAGCAGGATCCAATAACTCTGGATCAGTTTCCTTTGATGGA 1461	셤	540 GlyTyrGlnGlyAspTrp
q	234 CysCysIleSerAspLeuAsnThrSerGluLysGlySerLeuSerLeuAaCyS 251	ò	2440 ACTCTGAAAGCTACATGG
È	1462 GAGGGAGTAGTTTTTTAGTAGCAATGTAGCTGCTGGGAAAGGGGGAGCTATTTATGCC 1521	g G	::: 557 SerLeulleAlaAsnTrp
a	252 AgnGlnGluThrLeuPheAlaSerAgnSerAlaLygGluLygGlyGlyAlaIleTyrAla 271	ò	2500 TIGGTICCAAATAGTIT
È	1522 AAAAAGCTCTCGGTTGCTAACTGTGGCCCTGTACAATTTTTAAGGAATATCGCTAATGAT 1581	qa	::: 577 LeuValAlaAsnThrLeu
g	272 LysHisMetValLeuArgTyrAsnGlyProValSerPheIleAsnAsnSerAlaLysIle 291	ð	2560 CAAGCAAGTGTGGATGGG
È	1582 GGTGGAGCGATTATTAGGAGAATCTGGAGACTCAGTTTATCTGCTGATTATGGAGAT 1641	q	 S97 AsnThrIleAlaHisGly
Ор	292 diydiyalarlealarleGinSerGlyGiySerLeuSerrleLeualaGlyGluGlySer 311	ò	2620 TTCTTCTATCATGA
È	1642 ATTAITITCGAIGGGAAICTIAAAAGAACGCCAAAGAAAIGCTGCCGAIGTIAAIGGC 1701	ු අධ	
đ	312 ValLeuPheGlnAsnAsnSerGlnArgThrSerAspGlnGlyLeuValArgAsnAla 330	<u>ک</u>	2674 GGTTATTCCTTAGGAGCA
È	rgtgtcctcacaagccatttcgatgggatcggagggga 	4 6	 637 GlyTyrLeuPheGlyIle
qq	331 IleTyrLeuGluLysAspAlaile	è	
È	1762 GCTAAAGCAGCCATCAGATTCTCTTTAATGATCCCATCGAGATGGAAACGGAAAT 1818	: E	::::: :::
q	14 AlaArgAsnGlyAspIleLeuPhePheAspProlleValGlnGluSerSerLys 362	}	
ò	1819 AACCAGCCAGCGCAGTCTTCCAAAACTTCTAAAAATTAACGATGGAGGATACAGAGGG 1878	S 8	
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È	ACTITGTACCAAAATGTTACG	Š	711 PheSerIveGluGlvPhe
q	403 SerGluGluIysThrProAspAsnLeuThrSerGlnLeuGlnGlnGluIeu 422		TASTETUTES ASSOCIATED SAC
È	1930 GAGCAAGGAATTGTTCTTCGTGAAAAGGCAAAATTATCAGTGAATTCTCTAAGTCAG 1989	;	731 SerileProlleValSer
q	::: ::: ::::::	§ &	3028 CAAGCTGAGTTTTCTTAI
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GAAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCTTAT 2439 GACTAAAACTGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCT 2499 ATGGGGATCCATTTTAGATATACGATCTGCGCATTCAGCAATT 2559 GCGCTCTTATTGTCGAGGATTATGGGTTTCTGGAGTTTCGAAT 2619 CCGCGATGCTTTAGGT---CAGGGATATCGGTATATTAGTGGG 2673 AAACTCCTAC---TTTGGATCATCGATGTTTGGTCTAGCATTT 2730 ATCTAAAGATTATGTAGTGTGTCGTTCCAATCATCATGCTTGC 2790 ATCTACCCAACAAGCTTTATGTGGATCCTATTTGTTCGGAGAT 2850 ATGITCGITGGGATAATAACTGICTGGAGAGAATTGGAGCG 2967 TACTCCATCTAAGCTCTATTTGAATGAGTTGCGTCCTTTCGTG 3027 AIGCCGAICAIGAAICTITIACAGAGGAAGGCGAICAAGCICGG 3087 TAATCAAAAATCAATGTCCTGAAATTACAGTTAGGGACTAAG 2325 ATCAGATTTGACTCTA-----GGGAATGAGATGCCTAAGTAT 2379 AAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGCGCAA 2166 CATTGGTAGCACAACTGCTGCTTCTTACAATTAGTGGGCCT 2226 -ATCTTTTTGAGGATTTG---GATGATACAGCTTATGATAGG 2265 neglyserTrpHisSerValAlaValSerGlyGluValCysAla 730 TGCCGCTAATCAGTTGATCACGCTTTCCAATCTGCATTTGTCT 2106 :||| ||| ||| serSerAphelleThrSerThrGlu------ 672 ::::||| |||||| eAlaThrValGlnAlaGlnLeuAlaThrProLeuMet---Lys 690 sGludinAsn---AsnileProLeuLeuThrLeu----- 521 ||| ||| ||| ::: .nSerHisLeuHisLeuProAspGlyAsnLeuSerSerHisPhe 539 | :::||| :::|| | :::
pThrPheSerTrp-----LysAspSerAspGluGly---His 556 uHisSerLeu-----| |||||||||||||:::::

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GCTAAAGCAGGGCATCAGATTCTCTTTAATGATCCCATC---GAGATGGCAAACGGAAAT 1818
                                                                                                                                                                                                                                                                                            1042 CAAGTAGTCACCAGTTTCTCTGCTATGGCTAACGAGGCTCCTATTGCCTTTGTAGCGAAT 1101
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                                                                                  ---IlelleHisGlnLysAsnGlyGlnLeuSerLeuArgAsnAsnGlySerMetSerPhe 138
                                                                                                                                                                                                   234 CysCysIle----SerAspLeuAsnThrSerGluLysGlySerLeuSerLeuAlaCys 251
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                             865 GGTACTATTTATTCTAAAACA---GATCTTTTGTTACTCAATAATGAGAAGTTCTCATTC
                                                                                                                                                                                 922 TATAGTAATTTAGTCTCTGGAGATGGGGGAGCTATAGATGCTAAGAGCTTAACGGTTCAA
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LysLeuGlnGlyPheSerGlyThrGlnAspGlyPheGluGluSerSerGlyGluIleArg 769
                                                                                                                                                                                                                                                                                                                                                                                         Sequence 23, Application US/11018868
Publication No. US20060034871A1
GENERAL INFORMATION:
APPLICANT: Chiron Corporation
APPLICANT: Ratti, Guido
APPLICANT: Rinco, Oretta
TITLE OF INVENTION: Immunogenic Compositions for Chlamydia trachomatis
FILE REPERENCE: 002441.00099 (PP23152.001)
CURRENT APPLICATION NUMBER: US/11/018,868
CURRENT FILING DATE: 2004-12-22
NUMBER OF SEQ ID NOS: 186
SOFTWARE: Patentin version 3.2
SEQ ID NO 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GATCCGAGTGGGACTACTGTTTTTCTGCAGGAGAGTTAACATTAAAAAATCTTGACAAT 597
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                                          41 ValValCysThrPhePheGluAspCysThrMetGluSerLeuPheProAlaLeuCysAla
                           GCATTCAAGAGCGGACATCTCCTAAATCTATCAGTTCCTGTTGGAGTGAAGTTTGATCGA
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Matches:
Conservative:
Mismatches:
Indels:
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Best Local Similarity:
Query Match:
DB:
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Pred. No.:
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Percent Similarity: Best Local Similarity: Query Match: DB: US-10-701-844-1 (1-443)	imil. 1 Sir ch: -844-	; ity: -443	41.1% 25.8% 8.2% 11 5) x US-11-103-95	Conservative: Mismatches: Indels: Gaps:	155 389 205 43		
के व	631	AACTTATTA	GGGAGTTTTACTGTTT	TAGGGAGAGGACACT	AACTTATTAGGGAGTTTTAACGGAGAGGACACTCGTTGACTTTC	681	
8 8	583	GAGAACATA	SerLeuserAsnLysrieserLeui GAGAACATACGG	Intelyaspinkaisk		28	
2 A	59		 ArgTyrIleLeuAlaI	 		78	
<i>8</i> ∶	718		SCTGCTGATGGACTGT	TTACTATTGAGGGT		777	
a a	79	Thr	IleThrAspTyrLeus	erPhePheAspThrC		96	
දු පු	97	AATTGCAAT	TCATTACTTGCCGTAC	recerectecaaces ::: hrProGluSerGlyC	AATTGCAATTCATTACTTGCCGTACTGCCTGCTGCAACGACTAATAAGGGTAGCCAGACT {	837	
È	838		VACATCTACACCGTCTA	ATGGTACTATTTAT	CCGACGACACATCTACACCGTCTAATGGTACTATTTATTCTAAAACAGATCTTTTGTTA {	897	
qq	113	ProAsnSer	ProThrValGlulleA	rgAspThrile		129	
è	868	CTCAATAAT	CGAGAAGTTCT	CATTCTATAGTAAT		945	
QQ	130	GluAsnAsn	ThrCysCysArgLeuF	heThrTrpArgAsni	GluAsnAsnThrCysCysArgLeuPheThrTrpArgAsnProTyrAlaAlaAspLysIle	149	
È	946		SGGAGCTATAGATGCTA	AGAGCTTAACGGTTC	GGGGGAGCTATAGATGCTAAGAGCTTAACGGTTCAAGGAATTAGCAAGCTTTGT	666	
qq	150	ArgGluGly	GlyalaileHisAlaG	::::::::::::::::::::::::::::::::::::::		169	
	1000		GAAAATACTGCTCAAG	CTGATGGGGGAGCT	GICTICCAAQAAATACIGCICAAGCIGATGGGGAAGCITGICAAGIAGICACCAGITIC 3	1059	
8	170	GlyPheMet	:LysAsnPheSerTyr\	alGlnGlyGlyAlal		189	
È	1060		TCTGCTATGGCTAACGAGGCTCCTATTGCCTTTGTAGCGAATGTT-	TTGCCTTTGTAGCG		1104	
qq	190		rGluAsnGlnSerCysE	heLeuPheMetAsp	ValValSerGluAsnGlnSerCysPheLeuPheMetAspAsnIleCysIleGlnThrAsn	209	
à	1105		AGTAAGAGGGGAAGGGA	ATTGCTGCTGTTCAGG	GCAGGAGTAAGAGGAGAGATTGCTGTTTCAGGATGGCCAGCAGGAGTGTCA	1161	
Db	210		LysGlyGlyAlai	leTyrAla		222	
ò	1162		rtcaacagaagatccag	JTAGTAAGTTTTTCCJ		1221	
qq	223		aglu	- - Ser		234	
È	1222		CGTAGCCCGAGTAGGAC	GAGGGATTTACTCC		1260	
DÞ	235		nalaCysCysAlaGlyd	il lyAlailePheseri		254	
È	1261		PAACGTTGCTTTCCTG	ATAATGGAAAAACC	H	1317	
DP QD	255		::: AsnileValPheTyr	 snAsnArg(269	
È	1318		TACATTGCTGCTAAGG	CAACCAACAAGTGGA		1377	
qq	270	;	; ; ; ; ; ; ;	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	valGluThrAlaSerSer	275	
È	1378		AGATGGAGGAGCTATCT	TCTGTAAGAATGGT		1437	
ą	276			ysvalThrThrArg		294	
È	1438		AGTTTCCTTTGATGGAC	BAGGGAGTAGTTTTC	TCTGGATCAGTTTCCTTTGATGGAGAGGAGTAGTTTTCTTTAGTAGCAATGTTGCTGCT	1497	
qq	295		f	 rgGlyArgilePhe		306	
È	1498	GGGAAAGGC	GGAGCTATTTATGCC	AAAAGCTCTCGGTT	GGGAAAGGGGAGCTATTTATGCCAAAAAGCTCTCGGTTGCTAACTGTGGCCCTGTACAA :	1557	

2409 2023 ---ACATGGGATTTTGTAACTCCACACACACACACAGCCTCCTGCCGCTAATCAGTTG 2079 2133 2305 AAATTACAGTTAGGGACTAAGCCC-----CCAGCTAATGCCCCATCAGATTTGACTCTA 2358 2410 GATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAAACTGGG 2469 1675 AAAGAGAATGCTGCCGATGTTAATGGCGTAACTGTGTCCTCA------CAA 1719 GCCATTTCGATGGGATCGGGAAAATAACGACATTAAGAGCTAAAGCAGGGCATCAG 1779 1840 AAACTTCTAAAAATTAACGATGGTGAAGGATACACAGGGGATATTGTTTTGCTAAT--- 1896 1924 ACGATAGAGCAAGGAATTGTTCTTCGTGAAAAGGCAAAATTATCAGTGAATTCTCTTA 1983 2134 -----GITACGAATCCTCCTACCAATCCTCCAGGGAAGATTCTCATCTGGAGTCATT 2187 2188 GGTAGCACA---ACTGCTGGTTCTGTTACAATTAGTGGGGCCTATCTTTTTTGAGGATTTG 2244 2245 GATGATACAGCTTATGATAGGTATGATTGGCTAGGTTCTAATCAAAAATCAATGTCCTG 2304 2359 GGGAATGAG-----ATGCCTAAGTATGAGTATCAAGAAGC 2394 TITITAAGGAATATCGCTAATGAT --- GGTGGAGCGATTTATTTAGGAGAATCTGGAGAG 1614 1615 CTCAGTTTATCTGCTGATTATGGAGATATTATTTCGATGGGAATCTTAAAAGAACAGCC 1674 611 İrpihrirpGlyİrpAlaLysThrGlnAspProGluProAlaSerSerAlaThrIleThr 630 AspproGlnLysAlaAsnArgPheHisArgThrLeuLeuLeuThrTrpLeuProAlaGly 650 ThrHisAlaLeuSerSerGInProMetLeuSerIleSerGluAlaSerAspAsnGlnLeu 590 307 AsnTyrGlyGlyAlaIleTyrAlaProValValThrLeuValAspAsnGlyProThrTyr 326 ||| ::: ||||| | 363 ValThrAsnValThrAsnAlaAsnGlyThrSerThrSerAlaAsnProProArgArgAsn 382 |||||||:::::: ||| 383 AlaileThrValAlaSerSerSerGlyGluIleLeuLeuGlyAlaGlySerSerGlnAsn 402 436 ThrValAsnSerAlaAspPheHisGlnArgAsnLeuGlnThrLysThrProAlaProLeu 455 |||::: ||| ::: ::: ::: |||:::||||||||| 475 ThrLeuSerAsnGlyPheLeuCysIleGluAspHisAlaGlnLeuThrValAsnArgPhe 475 544 AlaAlaThrPheSerLeuSerAspValLysLeuSer------LeuIleAspAspTyr 560 2080 ATCACGCTTTCCAATCTGCATTTGTCTTTCTTTCTTTAGCAAACAATGCA----1984 AGTCAGACAGGTGGGAGTCTGTATATGGAAGCTGGGAGT-------------GGAAGCAGTACTTTGTACCAAAAT 2395 TGGAAGCTTGCGTGG------1720 526 571 631

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710 HisProGlyPheHisMetArgSerSerGlyTyrSerAlaGlyMetIleAlaGlyGlnThr
                      TATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGTTTATGGGGATCC---
                                                                                       ATTITAGATATACGATCTGCGCATTCAGCAATTCAAGCAAGTGTGGATGGGCGCTCTTAT
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US-11-018-868-19
; Sequence 19, Application US/11018868
; Deblication No. US20060034871A1
; GENERAL INFORMATION:
; APPLICANT: Chiron Corporation
; APPLICANT: Grandi, Guido
; APPLICANT: Retti, Guillo

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---GCAGGAGTAAGAGGGGATTGCTGCTGTTCAGGATGGGCAGCAGGAGTGTCA 1161
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ProAsnSerProThrValGluIleArgAspThrIle------GlyProValIlePhe 129
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APPLICANT: Bonci, Alessandro
APPLICANT: Finco, Oretta
TITLE OF INVENTION: Immunogenic Compositions for Chlamydia trachomatis
TITLE OF INVENTION: Immunogenic Compositions for Chlamydia trachomatis
TILE REFERENCE: 00244100099 (PP23152.001)
CURRENT APPLICATION WUMBER: US/11/018,868
CURRENT FILING DATE: 2004-12-22
NUMBER OF SEQ ID NOS: 186
SOFTWARE: Patentin version 3.2
SEQ ID NO 19
LENGTH: 964
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260
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Mismatches:
Indels:
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Matches:
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41.1%
25.8%
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Best Local Similarity:
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561 GlyAenSerProTyrGl 2305 AAATTACAGTTAGGGAC :: 571 ThrHieAlaLeuSerSe 2359 GGGAATGAG 591 GlnSerGluAenlleAe 2339 TGGAAGCTTGCGTGG	611 TrpThrTrpGlyTrpAl 2410 GATCCTAATACAGCAAA (631 AspProGlnLysAlaAs	2527 ATTTAGATATAGGTC 2527 ATTTAGATATAGGTC 251 LeuleulatathrGluse	2587 TGTCGAGGATTATGGGT : : : 691 TrpGlylleThrGl 2647 GGTCAGGGATATCGGTA 710 HisProGlyPheHisMe	2698 TACTTTGGATCATCGAT ::: 730 HisThPheSerLeuLy 2755 GATTATGTAGTGTGTCC 750 ASNASNValSe	2815 CAACAAGCT768	807 Thr	3100GGACATCTCCTAAN [:: 857 LysThrProLeulleAs 3157 ACACATCCTAATA 877 ThrHisArgProGlnAl 3214 ATCTCTGGTACTGAGA 897 GluProGlylleAlaal
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AGCGAGTAGCTTCTTTGGTTCCAAATAGTTTATGGGGATCC--- 2526 PTTGGGAATCAGCATATGAAAACCTCATATACATTTGCAGAGGAG 2919 BATAATAACTGTCTGGGGGGGGATTAGAGCGGGGATTACCGATT 2979 AAGCTCTATTTGAATGAGTTGCGTCCTTTCGTGCAAGCTGAGTTT 3039 AAATATAGCTTTATGCGGCTTATATCTGTGATGCTTATCGCACC 3213 ACAACGCTCCTATCCCATCAAGAGACATGGACAACAGATGCCTTT 3273 ATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAAACTGGG 2469 CTGCGCATTCAGCAATTCAAGCAAGTGTGGATGGGCGCTCTTAT 2586 FITTCTGGAGTTTCGAATTTCTATCATGACCGCGATGCTTTA 2646 PATATTAGTGGGGTTATTCCTTAGGA-----GCAAACTCC 2697 BAATCTTTTACAGAGGAAGGCGATCAAGCTCGGGCATTCAAGAGC 3099 APICTATCAGTICCTGTTGGAGTGAGTTTGATCGATGTTCTAGT 3156 CTAAGCCC-----CCAGCTAATGCCCCATCAGATTTGACTCTA 2358 -----ATGCCTAAGTATGGCTATCAAGGAAGC 2394 ---- 2409 ATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGA---TCTAAA 2754 -----TTATGTGGATCCTATTTGTTCGGAGATGCGTTTATC 2859 snArgPheHisArgThrLeuLeuLeuThrTrpLeuProAlaGly 650 ThrHislleLeuThr----AlaProPheLeuGlyAlaLeuGly 836 |||||||::: :::
||aGlnLeuLeuAlaSerLysGlyIleTrpPheGlySerGlySer 916 serGlnProMetLeuSerIleSerGluAlaSerAspAsnGlnLeu 590 laLysThrGlnAspProGluProAlaSerSerAlaThrIleThr 630 31yGlyGlyLeuGlyMetMetValTyrGlnAspProArgGluAsn 709 ||| ::::::::||| ||| :::
|SerSerLysAsnTyrSerCysGlnGlyGluMetLeuPheSerLeu 767 ------- 570 luSerThrAsp------

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1225 GGGAACGTAGCCCGAGTAGGAGGATTTAC----TCCTACGGAACGTTGCTTTC 1278
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                                                                                                                                                                                                                                                                      GAT----GGGGGAGCTTGTCAAGTAGTCACC 1053
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| IJSArgValArgIleValAspAsnGlnGluAlaValValPheSerAsnAsnPheSerAsp 814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         675 ValAspAsnGlyTyrValLeuPheArgAspAsnArgGlyArgValTyrGlyGlyAlaIle 694
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835 IleProGluValLeuIleSerGlyAsnAlaGlyAspValValPheSerGlyAsnSerSer 854
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                                                                                                                                 AAT------TTAGTCTCTGGA-----GATGGGGGAGCTATAGATGCTAAG 966
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815 IleTyrGlyGlyAlaIlePheThrGlySerLeuArgGluGluAspLysLeuAspGlyGln
                                                                                                                                                      Asn-----AlaArgAlaProGlnAlaLeuProThrGlnGluGluPheProLeuPheSer
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Publication No. US20050281847A1
GERERAL INFORMATION:
APPLICANT: Berthet, Francois-Kavier Jacques
APPLICANT: Dobet, Yves
APPLICANT: Colman, Jan
APPLICANT: Verlant, Vincent Georges Christian
ITILE OF INVENTION: Vaccine Composition
FILE REFERENCE: B452A
CURRENT APPLICATION NUMBER: US/11/103,957
CURRENT FILING DATE: 2005-04-12
PRIOR APPLICATION NUMBER: WS/10/467,534
PRIOR FILING DATE: 2004-02-03
PRIOR FILING DATE: 2004-02-03
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
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PRIOR FILING DATE: 2001-03-08
PRIOR FILING DATE: 2001-03-08
PRIOR FILING DATE: 2001-03-08
PRIOR APPLICATION NUMBER: PCT/ED02/01356
PRIOR FILING DATE: 2001-03-08
PRIOR APPLICATION NUMBER: GB 0103169.9
PRIOR APPLICATION NUMBER: GB 1010169.9
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                         APPLICANT: Grandi, Guido
APPLICANT: Grandi, Guido
APPLICANT: Grandi, Guido
APPLICANT: Grandi, Guido
APPLICANT: Bonci, Alessandro
APPLICANT: Finco, Oretta
TITLE OF INVENTION: Immunogenic Compositions for Chlamydia trachomatis
FILE REPERENCE: 002441.00099 (PP23152.001)
CURRENT APPLICATION NUMBER: US/11/018,868
NUMBER OF SEQ ID NOS: 186
SOFTWARE: Patentin version 3.2
SEQ ID NO 18
LENGTH: 1531
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Publication No. US20060034871A1
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                     GGGAACGTAGCCCGAGTAGGAGGGATTTAC----TCCTACGGGAACGTTGCTTTC 1278
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GGGGGAGCTTGTCAAGTAGTCACC 1053
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815 IleTyrGlyGlyAlaIlePheThrGlySerLeuArgGluGluAspLysLeuAspGlyGln 834
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675 ValAspAsnGlyTyrValLeuPheArgAspAsnArgGlyArgValTyrGlyGlyAlaIle
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                                                                          AGTITCTCTGCTATGGCTAACGAGGCTCCTATTGCCTTTGTAGCGAATGTTGCA-----
                                SerGluGluGluAlaThrLeuLeuGlyCysCysGlyGlyGlyAlaValHisGlyMetAsp
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CURRENT APPLICATION NUMBER: US/11/103,957
CURRENT FILING DATE: 2005-04-12
PRIOR APPLICATION NUMBER: US/10/467,534
PRIOR FILING DATE: 2004-02-03
PRIOR PLILING DATE: 2004-02-03
PRIOR PLILING DATE: 2002-02-08
PRIOR PLILING DATE: 2002-02-08
PRIOR APPLICATION NUMBER: GB 0103169-9
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ThrAsnValTrpGlyPheAlaPheGlyGlyPhcArgThrLeuSerAlaGluAsnLeuVal 1268
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1230 LygasnalaargPhealaHisAsnLeuThralaGlnArgMetGlu---PheAspTyrSer 1248
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LeuGluLeuLeuAsnGlyAlaThrLeuCysSerTyrGlyPheLysGlnAspAlaGlyAla 1021
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                                                  .768 GCAGGGCATCAGATTCTCTTTAATGATCCCATCGAGATGGCAAACGGAAATAACCAGCCA 1827
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TCCTCACAAGCCATTTCGATG---GGATCGGGAAGGAAATAACGACATTAAGAGCTAAA 1767
                         924 GlyserAspalaileTyrPheAlaGlyLysGluSerHisileThrAlaLeuAsnAlaThr 943
                                                                                                                  2428 AATGGICCITATACTCIGAAAGCTACATGGACTAAAACTGGGTATAATCCTGGGCCTGAG
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                                                                                                                                                      1999 AGTCTGTATATGGAAGCTGGGAGTACATGGGATTTTGTA---ACTCCACAACCACCACAA
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3211 ACCATCTCTGGTACTGAGACAACGCTCCTATCCCATCAAGAGACATGGACAACAGATGCC 3270 3313 TATGCTTCTCTAACAAGTAATATAGAAGTATATGGCCATGGAAGATATGAGTATCGAGAT 3372 SerAlaSerTrpThrSerArgGlyValLeuAlaAspAlaLeuValGluTyrArgSerLeu 1377 2983 ATTACTCCATCTAAG-----CTCTATTTGAATGAGTTGCGTCCTTTCGTGCAAGCTGAG 3036 1438 LysGlyGlnPheSerGluValAsnSerLeuGlylleSerTyrAlaTrpGluAlaTyrArg 1457 ---TCCTACTTTGGATCATCGATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGATCT 2751 2923 GATGTTCGTTGGGATAATAACTGTCTGGCTGGAGAGATTGGAGCGGGATTACCGATTGTG LysvalGluGlyGlyAlaValGlnLeuLeuGluAlaGlyPheAspTrpGluGlyAlaPro MetGluAspPhevalLeuGlyValSerGlyAlaAlaPheLeuGlyLysMetAspSerGln AAA---GATTATGTAGTGTGTGTCCCAATCATCATGCTTGCATAGGATCCGTTTATCTA 2809 TCTACCCAACAAGCTTTATGTGGATCCTATTTGTTCGGAGATGCGTTTATCCGTGCTAGC TTTTCTTATGCCGATCATGAATCTTTTACAGAGGGGAAGGCGATCAAGCTCGGGCATTCAAG 3097 AGCGGACATCTCCTAAATCTATCAGTTCCTGTTGGAGTGAAGTTTGATCGATGT----3151 TCTAGTACACATCCTAATAAATATAGGCTTTTATGGCGGCTTATATCTGTGATGCTTATCGC 3373 GCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGTAGAGTCCGGTTC 3417 APPLICANT: Lobet, Yves
APPLICANT: Poolman, Jan
APPLICANT: Verlant, Vincent Georges Christian Louis
TITLE OF INVENTION: Vaccine Composition
FILE REFERENCE: B45261 Sequence 47, Application US/11103957
Publication No. US20050281847A1
GENERAL INFORMATION:
APPLICANT: Berthet, Francois-Xavier Jacques

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Ser-----GlyGlyAlaPheArgAsnLeuAlaGlyLysIleSerPheLeuGlyLysAsn 117
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                                                                                                                                                                                                                 -------AlaGluMetGluLeuAlaIleSerGlyHisLysGlnGly---Lys 64
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Indels:
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PRIOR FILING DATE: 2001-02-08
NUMBER OF SEQ ID NOS: 108
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 47
LENGTH: 975
TYPE: PRT
ORGANISM: Chlamydia trachomatis
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Qy 3082 GCTCGGGCATTCAAGAGCGGACATC	882	3190	3250 920	3292 940	3352 GGAAGAT 957 AsnArg-	Db 974 GlyPhe 975	RESULT 12 US-11-018-868-15 ; Sequence 15, Application US/11018868 : Bakitarion No Inconsolute 11	GENERAL INFORMATION: ; APPLICANT: Chiron Corporation ; APPLICANT: Grandi, Guido	; APPLICANT: Rattl, Gullio ; APPLICANT: Bonci, Alessandro ; APPLICANT: Finco, Oretta ; TITLE OF INVENTION: Immunogenic Comp	; FILE REFERENCE: 002441.00099 (PP2115); CURRENT APPLICATION NUMBER: US/11/01 ; CURRENT FILING DATE: 2004-12-22	; NUMBER OF SEQ ID NOS: 186 ; SOFTWARE: PatentIn version 3.2 ; SEO ID NO 15	; LENGTH: 975 ; TYPE: PRT ; TADAILSM: Chlamydia trachomatis	ignment Scores:	Score: Percent Similarity: 38.1% Best Local Similarity: 24.9% Query Match: 7.0%	US: US-10-701-844-1 (1-4435) x US-11-018-86	Oy 388 ACGTCTTTCCATAAGTTCTTTCTTT	4	51	QY 493 GAIGGGARACCITACLICANICAL	
2119 TTAGCAAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGGGCAAGATTCTCATCT 2178 	2179 GCAGTCATTGGTAGCACAACTGCTGGTTCTGTTACAATTAGTGGGCCTATCTTT 2232 ::: ::: 577LeuSerGlySerProSerIleH18AspProGluGlyLeuPhe 590	TTTGAGGATTTGGATGA ::: ::: TyrGluAsnArgAspTh	CAAAAAATCAAT	2347 GATTTGACTTTAGGGAATGAGATGCCTAAGTATGGCTATCAAGGAAGCTGGAAGCTTGCG 2406	2407 TGGGATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAA 2463 	2464 ACTGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGTTTATGG 2520		Deuleuglitinialaseihisassilleugiyasphisleucyaasilasi GGGCGCTCTTATTGTCGAGGATTATGGGTTTCTGGAGTT	699 ArgSerLeulleProThrSerTyrPheGlyValLeulleGlyGlyThrGlyAlaGlu 717 2614TCGAATTTCTTCTATCATGACCGCGATGCTTAGGTCAG 2652	718 MetserthrhisserserGlugluderPheileserArgLeuGlyAlaThrGlyThr 737		2713 AIGITIGGICIAGCAITTACCGAAGTAITIGGIAGAICIAAAGAITAIGIAGIGIGGI 2772 ::: 755 MetPheGlyAbpSerPheValalaAspLeu 764	2773 TCCAATCATGTTGCATAGGATCCGTTTAT	2806CTATCTACCAACAAGCTTTATGTGGATCTATTTGTTCGGAGATGCGTTTATCCGT 2862	GCTAGCTACGGGTTTGGGAATCAGCATATGAAAACCTCATATACATTTGCAGAGGAGAGC	GGGATAATAACTGTC	LystrpAspThrPheGlyMetArgGlyThrLeuGlyAlaSerTyrThrPheLeu	2983 ATTACTCCATCTAAGCTCTATTTGAATGAGTTGCGTCCTTTCGTGCAAGCTGAGTTTTCT 3042 	3043 TATGCCGATCATGAATCTTTTACAGAGGAAGGCGATCAA 3081 :::	
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| III
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SerValProThrSerAlaHisThrLeuAlaAsnGln 939
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LysAlaCysSerLeuTyrlleThrAlaTyrThr11e 956
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tGluLeuAlaIleSerGlyHisLysGlnGly---Lys 64
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360 IlellePheSerAs	-	380 LYSLYSPYCOSETLEUINILEULI 1660CTTAAAAGAACAGCCAAAGA	400	1717 CAAGCCATTTCGATGGGATCGGG ::: 420 AlaProTyrLysIle	1777	433	1837 TCCAACTTCTAAAATTAACGA 452IleAsnal			1900	487 INTSETLIEPNEASNGINFIOVE	507	2020	527		DD 347 FIGHERSTATESSINGLY DOS	565	Qy 2179 GCAGTCATTGGTAGCACAACTG	Db 577LeuSe	Oy 2233 TTTGAGGATTTGGATGATACAGG		OY 2287 CANADANICANISTICCIONALIST	.,	621	Qy 2407 TGGGATCCTAATACAGCAAATA	Db 639 TrpGlnProAsnThrlleAsnA	Qy 2464 ACTGGGTATAATCCTGGGC		Oy 2521 GGATCCATTTTAGATATACGAT ::: ::::::::::::::::::::::::::::	n 0
80 ABHTVIlelleAenArdysLeulleLeuSerAepPheSerLeuleuAenLysValSer 99	TAAGTIGITITIGGGAACTTATTAGGGAGTTTTTACTGTTTTTAGGGAGAGGA 666		667 CACTGGTTGACTTTCGAGAACATACGGACTTCTACAAATGGGGGAGCTCTAAGT 720	AATAGGGCTGGTGATGGACTGTTACTATTGAGGGTTTTAAAGAATTATCCTTTTCCAAT	146	781 TGCAATTCATTACTTGCCGTACTGCTGCAACGACTAATAAGGGTAGCAGACTAGAGGGTAGATGGGTAGATAAGGGTAGACTGCG 840 147 LeuArgLysLeuValAlaPhe	AATGGTACTATTTATTCTAAAACAGATCTTTTGTTACTC		901 AATAATGAGAAGTTCTCATTGTAATTTAGTCTCTGGAGATGGGGGGGG	191	DD :::	CTGCTCAAGCTGATGGGGGAGCTTGTCAAGTAGTC 1050	217	TCTCTGCTATGGCTAACGAGGCTCCTATTGCCTTTGTAGCGAATGTTGCAGGA 1110	1170		1230	253	1231 GTAGCCCGAGTAGGAGGATTTACTCCTACGGGAACGTTGCTTTCCTGAATAATGGA 1290 1231 GTAGCCCGAGTAGGAGGATTTACTCCTACGGGAACGTTGCTTTCCTGAATAATGGA 1290 1231 GTAGCCCGAGTAGAGGGGATTTACTCCTACGGGAACGTTGCTTTCCTGAATAATGGA 1290	1350		1351AGTGGACAGGCTTCTAATACGAGTAATAATTACGGAGATGGA 1392	303	2	ProlleLeuPheSerGlnAsnHisAlaAsnLysLysGlyGlyAlaIle 319	1491	1yrAlaciniyrvalAbnueuciucinabnoinabjiir.lieAlgrieciuuysasiiii 555		1602	-
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                                                                                        2653 GGATATCGGTATATTAGTGGGGGTTATTCCTTAGGAGCAAACTCCTACTTTGGATCATCG 2712
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2563 GCAAGTGTGGATGGGCGCTCTTATTGTCGAGGATTATGGGTTTCTGGAGTT----- 2613
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882 GluPheCysLeuGlyAsn----SerSerPheAlaLeuLeuGlyLysGlySerIleGly 899
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920 PheAlaTrpThrThrAsnGlyCysSerValProThrSerAlaHisThrLeuAlaAsnGln 939
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100 Ser-----GlyGlyAlaPheArgAsnLeuAlaGlyLysIleSerPheLeuGlyLysAsn 117
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| AsnAsnHisHisIleAlaPheArgAsnAsnIleThrLysGlyAsnGlyGlyVallleGln 191
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APPLICANT: Chiron Corporation
APPLICANT: Grandi, Guido
APPLICANT: Ratti, Guido
APPLICANT: Ratti, Guido
APPLICANT: Ratti, Guido
APPLICANT: Bonci, Alessandro
APPLICANT: Finco, Oretta
TITLE OF INVENTION: Immunogenic Compositions for Chlamydia trachomatis
FILE REFERENCE: 002441mcunogenic Compositions for Chlamydia trachomatis
FILE REFERENCE: 002441mcunogenic Compositions
CURRENT FILING DATE: 2004-12-22
NUMBER OF SEQ ID NOS: 186
SOFTWARE: Patentin version 3.2
SEQ ID NO 50
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2983 ATTACTCCATCTAAGCTCTATTTGAATGAGTTGCGTCCTTTCGTGCAAGCTGAGTTTTCT	3043 TATGCCGATCATGAATCTTTTACAGAGGAAGGCGATCAA :::	3082 GCTCGGGCATTCAAGAGCGGACATCTCTAAATCTATCAGTTCCTGTTGGAGTGAAGTTTT	3142 GATCGATGTTCTAGTACACATCCTAATAAATATAGCTTTATGGCGGCT :::	3190 TATATCTGTGATGCTTATCGCACCATCTCTGGTACTGAGACAACGCTCCTATCCCATCAA	3250 GAGACATGGACAACAGATGCCTTTCATTTAGCAAGACATGGA :: 920 PhealaTtpThtThtAsnGlyCysSerValProThtSeralaHisThtLeualaAsnGln	3292 GTTGTGGTTAGAGGATCTATGTATGCTTCTCTAACAAGTAATATAGAAGTATATGGCCAT ::::::::	3352 GGAAGATATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGTAGAGTC	3412 CGGTTC 3417 974 GlyPhe 975	RESULT 14 UB-11-103-957-11 ; Sequence 11, Application US/11103957	Publication No. US20050281847Al GENERAL INPORMATION: PEPLICANT: Berthet, Francois-Xavier Jacques APPLICANT: Lobet, Yves	APPLICANT: Poolman, Jan APPLICANT: Verlant, Vincent Georges Christian Louis TITLE OF INVENTION: Vaccine Composition FILE REPERENCE: 845261	CURRENT APPLICATION NUMBER: US/11/103,957 CURRENT FILING DATE: 2005-04-12 PRIOR APPLICATION NUMBER: US/10/467,534	PRIOR APPLICATION UNBER: PCT/PP02/01356 PRIOR FILING DATE: 2002-02-08	PRIOR APPLICATION NUMBER: GB 0103169.9 PRIOR FILING DATE: 2001-02-08 MINIMED OF SECTIONS: 108	Nomina C. 334 ID NOS. 208 SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 11 I.ENGTH: 1014	TYPE: PRT) ORGANISM: Chlamydia trachomatis U8-11-103-957-11	7.41e-37 Length: 522.50 Matches:	Percent Similarity: 37.1% Conservative: 157 Best Local Similarity: 23.6% Mismatches: 435 Query Match: 6.6% Indels: 295 DB: 11 Gaps: 53

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TTCGAATTTCTTCTATCATGACCGCGATGCTTTAGGT----CAGGGA 2655 TGGGGGTTATTCCTTAGGAGCAAACTCCTACTTTGGATCATCGATG 2715 TACCGAAGTATTTGGTAGATCTAAAGATTATGTAGTGTGTCGTTCC 2775 T-----GCGTTTATC---CGTGCTACGGGTTTGGGAATCAG 2886 ATATACATTTGCAGAGGAGGGATGTTCGTTGGGATAATAACTGT 2946 recascesearraccearrerearractecarcr --- AAGCrCTAT 3003 TICTITICGIGCAAGCIGAGITITICTIAIGCCGATCAIGAAICITIT 3063 ICCAAGCICGGGAITC----AAGAGGGGACAICICCIAAAICTA 3117 AGTGAAGTTTGATCGATGTTCTAGTACACATCCTAAT---AAATAT 3174 TITAIAITCIGIGAIGCIIAICGCACCAICICIGGIACIGAGACA 3234 TGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAAT 2511 TTGTCGAGGATTA------TGGGTTTCT 2607 | ||||||::::: ::: ::: ||| rLyeGlyTyrThrValSerSerGlnAla-----SerGlyAla 802 ||:::||| |yilelyaglyalaTyrSerSerAspThrTrpProThrLeuSerTrp 954 SAAGCTTGCGTGGGATCCTAATACA-----------2421 |||||| ValHisSer----746 tThrMetGlyLeuArgSerLeuLeuProAspAsnSerTrpPheAla 765 ::: aThrThrLeuPheThrLysGlnGlnLysArgLeuSerTyrHisGly 785 nThrThrThrAlaSerIleProAsnIleLysAlaSerAlaGlySer 701 oThrSerAlaThrSerIleAlaGluGlnLysLysThrSerGluThr 681 :::||||:::|||| aSerAsnSerGlyGluValThrIleThrLysHisThrLeuValVal 721 :::||| ||||||| || GlinSerSerLeuAsnThrSerLeuLeuSerProProHisTyrGly 641 othr Prodentrile Thr Thr Tyr Thr Ile Thr Leudenden 661 -GCAAATAATGGT-------CCTTATACTCTGAAAGCT

955 GluMetGluLeuAlaTyrGlnProThrLeuTyrTrpLysArgProLeuLeuAanThrLeu 974 235 CTCCTATCCCATCAAGACATGGACATGGATGCCTTTTAGCAAGACATGGAGTT 3294	ATTGAGGGTTTTAAAGAATTATCCTTTTCCAATTGCAATTCATTACTTGCGTACTGCCT AlaSezAspAsnAlaAsnLeuLeuPheCysAsnAsnTyr
TyrGlyArgGlySerHisSerLeuLysPheSerHisLeuLysLeuPheAlaAsnTyr 1013 AGATATGAGTATCGAGGTTCTCGAGGCTATGGTTTCAGTGCAGGAAGTAGAGTCGG 3414 iiii	
	166 GlyàlaLeuTyrAlaThrThrIleThrLeuThrGlyAsnargThrLeuAlaPhelle 184 1009 GAAAAIACTGCTCAAGCTGATGGGGGGGCTTGTCAAGTAGTAGTCACCAGTTTCTCTGCT 1065
APPLICANT: RECLI, GUILLO GUILL	AspthrvallysglylleLeuPheGluAsnAsnHisThrLeuAsnHislleProTyrThr TTTGTAGCGAATGTTGCAGGAGGAGGGAGGGATTGCTGCTGTTCAGGATGGCAG GluAlaGluAsnMetAlaArgGlyGlyAlalleCysSerArgArgAsp CAGGGAGTGTCATCATCATCAACAGAAGATCCAGTAGTAAGTTTTTCCAGAAATACT
	241Leucysseilieseiasiasiaiyftoilevai
	1270 GTTGCTTTCCTGAATAATGGAAAAACCTTGTTTCTCAACAATGTTGCTTCTCCTGTTTAC 1329 270 ValileAspAsnAsnLysGluArgileIlePheSerAsnAsn
1. (1-4435) x U8-11-018-868-20 (1-1034) CTAGCTTATTCTTGCTGCTCTTTAAATGGGGGGGGTATGCAGCAGAAATCATGGTTCCT 480	GGAGGAGCTATCTTCTGTAAGAATGGTGCGCAAGCAGGATCCAATAACTCTGGATCAGTT
CAAGGAATTTACGATGAGGAGACGTTAACTGTATCATTT	TCCTTTGATGGAGGGAGTAGTTTTTTTAGTAGCAATGTAGCTGCTGGGAAAGGGGGAA TyrPheAspSetAsnThrAlaThrHisAlaGlyGly GCTATTTATGCCAAAAAGCTCTGGGTTGCTAACTGTGGCCCTGTACAATTTTTAAGGAAT
	328 AlaileAsnCysGlyTyrIleAspileArgAspAsnGlyProValTyrPheLeuAsnAsn 347 1570 ATCGCTAATGATGGAGGGATTTATTTAGGAGAATCTGGAGAGCTCAGTTTA 1623 1570 ATCGCTAATGATGATAALAB
637 TTAGGGAGTTTTACTTTTAGGGAGAGGACACTCGTTGAGAACACATACGAATT 596 68 ThrGlyAlaCygThrIleSerGlyAsnThrGlnThrGlnIlePheSerAsn 84 697 TCTACAAATGGGGCAGCTCTAAGTAATAGGGCTGCTGATGGACTGTTTACT 747 697 SerValAsnThrThrAlaAspSerGlyGlyAlaPheAspMetValThrThrSerPheThr 104	368 HisThrGlyThrGlyAspIleValPheAsnAsnAsnAsnValValPheThrLeuAspGlyAsn 387 1660 CTTAAAAGAACGCCAAAGAGAATGCTGCCGATGTTAATGGCGTAACTGTGTCCTCACAA 1719

Qy 2572 GATGGGCGCTCTTATTGTC Qy 2572 GATGGGCGCTCTTATTGTC :: Db 747GlyArgAsnMetThrW Qy 2608GGAGTTTGGA Qy 2608GGAGTTTGGA Qy 2608GGAGTTTAGTGGGGGCCCTTATTAGTGGGGGCCCTTATTAGTGGGGGCCCTTATAGTGGGGGGCCTTATAGTGGGGGGGCCCCCTTATAGTGGGGGGGG	786 2716 803	Oy 2776 ANTORICATIONALIAN ON STATEMENT OF ST		Qy 3004 TTGAATGAGTTGCGTCCTT Db 896 SerlleMetLeuThrProl Qy 3064 ACAGAGGAAGGCGATCAA			Db 995 TyrGlyArgGlySer Qy 3355 AGATATGAGTATCGAGAT :::	RESULT 16 US-11-103-957-45 ; Sequence 45, Application US/11 ; Publication No. US20050281847A ; GENERAL INFORMATION: ; APPLICANT: Berthet, Francois-
1720 GCCATTTCGATGGGAAGGAAAATAACGACATTAAGAGCTAAAGCAGGCATCAG 1779	1882 ATTGTTTTGCTAATGGAAGCAGTACTTTGTACCAAAATGTT 1923	1960 GCAAAATTATCAGTGAATTCTCTAAGTCAGACAGGTGGGAGTCTGTATATG 2010		547LysSerProProCyslleArgValAsnProGlnAspMetThrGlnAsnThrGly 564 2182 GTCATTGGTAGCACACTGCTGGTTGTTACAATTAGTGGGCCTATCTTTT 2235	2236GAGGATTTGGATGATATGATAGGTATGATTGGCTA 2277 ::::: 584 GlyargLeuSerlleValAspGluaenTyrGluSerValTyrAspSerMetAspLeu 602 2278 GGTTCTAATCAAAAAATCAATGTCCTGAAATTACAGTTAGGGACTAAGCCCCCAGCTAAT 2337	GCCCCATCAGATTTGACTCTAGGGAATGAGATGCCTAAGTATGGC : : : : : :	2421	
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à	2572	T 26
qq	747	TrpPheAla 7
8 8	2608	GAGGTITTCGAATTTCTTCTATCATGACCGCGATGCTTTAGGTCAGGGA 2655
3 8	997	27
}	786	802
ò	2716	ATG
Dþ	803	
È	2776	AATCATCATGCTTGCATAGGATCCGTTTATCTATCTACCCAACAAGCTTTATGTGGATCC 2835
ପ୍ପ	823	:::::: ThrasnasnargLeuSerSerArgTyrLeuSerAlaLeuCysPheGlu 839
ò	2836	6 28
Q	840	HisProMetPheAspArgIleAlaLeulleGlyAlaAlaAlaCysAsnTyrGlyThrHis 859
ò	2887	59
Dp	860	AsnWetArgSerPheTyrGlyThrLysLysSerSerLysGlyLysPheHisSerThrThr 879
È	2947	CTGGCTGGAGAATTGGAGCGGATTACCGATTGTGATTACTCCATCTAAGCTCTAT 3003
qq	880	
ò	3004	TIGAAIGAGIIGCGICCIIICGIGCAAGCIGAGIIIICCIIAIGCCGAICAICAICIIII 3063
Dp	896	SerileMetLeuThrProPheAlaGlnAlaLeuPheSerArgThrGluProAlaSerIle 915
à	3064	ACAGAGGAAGGCGATCAAGCTCGGGCATTCAAGAGGGGACATCTCCTAAATCTA 3117
qq	916	ArggiuserdiyAspLeuAlaArgLeuPheThrLeuGluGlnAlaHisThrAlaValVal 935
à	3118	TCAGITCCIGITGGAGGTGAAGTTIGATCGAIGTTCTAGTACATCCTAATAAATAT 3174
QQ	936	
Ġ	3175	AGCTITATGGCGGCTTATATCTGTGATGCTTATCGCACCATCTCTGGTACTGAGACAACG 3234
QQ	955	GluMetGluLeuAlaTyrGlnProThrLeuTyrTrpLysArgProLeuLeuAsnThrLeu 974
ò	3235	CICCTATCCCATCAAGAGACATGGACAACAGATGCCTTTCATTTAGCAAGACATGGAGTT 3294
οp	975	LeuileGlnAsnAsnGlySerfrpValThrThrAsnThrProLeuAlaLysHisSerPhe 994
à	3295	GIGGITAGAGGAICTAIGIAIGCITCICTAACAAGIAAIAIAGAAGIAIAIGGCCAIGGA 3354
ΩÞ	995	TyrGlyArgGlySerHisSerLeuLysPheSerHisLeuLysLeuPheAlaAsnTyr 1013
ò	3355	AGATATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTTGAGTGCAGGAAGTAGAGTCCGG 3414
q ₀	1014	GinalaGluvalalaThrSerThrValSerHisTyrileAsnAlaGlyGlyAlaLeuVal 1033
È	3415	TTC 3417
ф	1034	Phe 1034
RESULT 16 US-11-103-957-45 ; Sequence 45; Ap; ; Publication No.; GENERAL INFORMA;; APPLICANT: BEX	ULT 16 11-103-957 equence 45 ublication ENERAL INF	SULT 16 -11-103-957-45 Sequence 45, Application US/11103957 Publication No. US20050281847A1 GENERAL INFORMATION: APPLICANT: Berthet, Francois-Xavier Jacques

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1717 CAAGCCATTTCGATGGGATCGGGAGGGAAATAACGACATTAAGAGCTAAAGCAGGGCAT 1776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATATTGTTTTTGCTAAT------GGAAGCAGTACTTTGTACCAAAATGTTACG 1926
                                 ------GCGAATGTTGCAGGAGTAAGAGGGGAGGGATTGCTGCTGTTCAGGAT 1143
                                                                                                                                           AATACTGCG-----1239
                                                                                                                                                                                                  ------GTAGGAGGATTTACTCCTACGGAACGTTGCTTTCCTGAATAAT 1287
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     SerLeuSerIleGlySerSerAspAlaGlyThrSerTyrIlePheSerGlyAsnSerVal 903
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                                                           904 SerThrGlyLysSerGlnThrThrGlyGlnIleAlaGlyGly-----
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| GlyLeuHisAlaLysThrValAsnIleSerAsnLeuLysSerGlyPheSerPheSerAsn
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APPLICANT: Lobet, Yves
APPLICANT: Poolman, Jan
APPLICANT: Verlant, Jan
APPLICANT: Verlant, Vancent Georges Christian Louis
TITLE OF INVENTION: Vaccine Composition
FILE REPERENCE: B45261
CURRENT APPLICATION NUMBER: US/11/103,957
CURRENT FILING DATE: 2005-04-12
PRIOR APPLICATION NUMBER: US/10/467,534
PRIOR APPLICATION NUMBER: PCT/EP02/01356
PRIOR APPLICATION NUMBER: GB 0103169.9
PRIOR FILING DATE: 2002-02-08
PRIOR FILING DATE: 2001-02-08
NUMBER OF SEQ ID NOS: 108
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 45
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794 AsnLysAlaAsnSerSerSerThr--------
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Matches:
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Mismatches:
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Gaps:
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2362 AATGAGATGCCTAAGTATGGCTATCAAGGAAGCTGGAAGCTTGCGTGGGATCCTAATACA 2421	2479GGGCCTGAGCGAGTA 2493 :: :: ::	1440 MetilevalValLysGlnGlyLeulleAsnAsnMetLeuAsn		2791 ATAGGACGTTTATCTATCTACCAACAAGCTTTATGTGGATCCTATGTTGTTGGATATGTTGTTGGATATGTTGTTGGATATGTTGT		3043 TATGCCGATCATGAATCTTTTACAGAGGAAGGCGATCAAGCTCGGGCATTCAAGAGCCGA 3102 ::: 1625 SerIleArgGlnLysGlnPheThrGluIleAspTyrAspProArgHisPheAspAspCys 1644 3103 CATCTCCTAAATCTATCAGTTCCTGTTGGAGTGAAGTTTGATCGATGT 3150 ::: 1645 AlaTyrArgAshGnLeuSerLeuProValGlyCysAlaValGluGlyAlaIleMetAsnCys 1664	3151 TCTAGTACACATCCTAATAAATATAGCTTTATGGCGGCTTAATCTTGTAATCTTGTAATCTTGTACACCATCATTATGGCGGCTTAATCTTGTAATCTTGTAATCTTGTAATCTTGTAATCTGTAATCTGTAATCTGTAATCTGTAATCTGTAATCTGTAATCTGTAATCTGTAATCTGTAATCTGTAATCTGTAA
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	λ G G	3358	TATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGTAGAGTCCGGTTC 3417
	RESULT 18 US-11-103-957- Sequence 21, Publication GENERAL INFO: APPLICANT: AP	LT 18 1-103-957-: guence 21, blication NERAL INFO PPLICANT: PPLICANTT: P	SSULT 18 S-11-103-957-21 Sequence 21, Application US/11103957 Publication No. US20050281847A1 GENERAL INFORMATION: APPLICANT: Berthet, Francois-Xavier Jacques APPLICANT: Berthet, Francois-Xavier Jacques APPLICANT: Poolman, Jan APPLICANT: Poolman, Jan APPLICANT: Versa APPLICANT: Versa APPLICANT: Versa APPLICANT: Versa APPLICANT: Versa APPLICANT: Versa APPLICANT: Versa APPLICANT: Versa APPLICANT: Versa APPLICANT: Versa APPLICANT: Versa APPLICANT: Versa APPLICANT: Versa APPLICANT: Versa APPLICANT VINDER: US/10/467,534 PRIOR APPLICATION NUMBER: US/10/467,534 PRIOR FILING DATE: 2004-02-03 PRIOR FILING DATE: 2001-02-08 NUMBER OF SEQ ID NOS: 108 SOFTWARE: PASESEQ for Windows Version 4.0 SEQ ID NO 21 LENGTH: 1770 TYPER PRI CREATH: 1770
	Alignment Scores Pred. No.: Score: Percent Similari Best Local Simil Query Match:	Scor : Simila al Sim	Mo.: 4.19e-27 Length: 1770 No.: 412.00 Matches: 258 snt Similarity: 35.5\$ Conservative: 148 Local Similarity: 22.6\$ Mismatches: 421 Aatch: 11 Gaps: 51
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1674 LeualaPheGluGlyGluLeuSerGlyAsnAspIleLeuMetTyrAsnArgPheSerVal 1693
  ThrserGluGluPheThrTyrTyrSerArgGlyAlaSerValAlaLeuAspAlaLysPro 1519
                      GGATCATCGATGTTT---GGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAAGATTAT 2760
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Publication No. US20060034871A1

GENERAL INFORMATION:

APPLICANT: Chiron Corporation

APPLICANT: Ratti, Guilio

APPLICANT: Ratti, Guilio

APPLICANT: Ritco, Oretta

TITLE OF INVENTION: Immunogenic Compositions for Chlamydia trachomatis

FILE REFERENCE: 002441.00099 (PP23152.001)

CURRENT APPLICATION NUMBER: US/11/018,868

CURRENT PILING DATE: 2004-12-22

NUMBER OF SEQ ID NOS: 186
                                          1520 AlaHisAspValileValGlyAlaAlaPheSerLysMetileGlyLysThrLysSer---
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1366 AATACGAGTAATA 946 AlaThrSerAlav	1426 GGATCC 966 GlySerAlalleG	1462 GAGGGAGTAGTTT : 985 SerGlySerTyrT	1522 AAAAGCTCTCGG ::: : 1004 ProValValSerI	1579 GATGGTGGAGCGA ::: 1023 GluGlySerAlæI	1639 GATATTATTTCG :::::: 1040 ServalLeuPheT	1672 GCCAAAGAGAATG ; 1060 ProAlaThrThr8	1726 TCG 1080 SerSerAenGlyS	1747 ATA 1100 IleCysPheArgA	1750		1843 CTTCTAAAATTA 1160 ThrLeuAspileA	1882 ATTGTTTTTGCTAAT 1180 IleLeuPheSerSerGluLe	1930 GAGCAAGGAAGGA : 1200 HisserdlySeri	1990ACAGGTGGGP 1220 LyaGluGlySerf	2047 CCACCACAACAGC	2107 CTTTCTTCTTTG- ::: 1252 LeuSerSerValC	2152

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52 IleAsnLysProAsnGlySerGlyLeuSerHisAsnIleTrpAspAsnLeuAsnVal 70 592 GAC	751 GAGGGTTTTAAAGAATTATCCTTTTCCAATTGCAATTGCTTACCCGTACTGCCGTT 810	### ##################################	907 GAGAAGTTCTCATTGTAATTTAGTCTCTGGAGATGGGGGAGCTATAGATGCTAAG 966 :::: ::: ::: ::: 199 LysvalSerAlaAspGluLeuAsnValValAlaGlyAsnAsnTyrValAsnAlaAla 217 967 AGCTTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAATACTGCTCAAGGT 1026 :::	289 SerAlaSerThrIleAsnLeuThrThrAsnGlyThrLeuAspAsnThrThrGlyThrVal 308 1180 GATCCAGTAGTAAGTTTTTCCAGAATACTGCGGTAGAGTTTGAT 1224 309 ThrSerValGlyThrIleSerLeuAsnThrAsnLysAsAThrIleValAsnThrArgAla 328 1225 GGGAACGTAGCCCGAGTAGGA
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1411 AATGGTGCGCAAGCAGGATCCAATAACTCTGGATCAGTTTCCTTTGATGGAGAGGGAGTA 1470	GTTTTCTTTAGTAGCAATGTAGCTGCGGAAAGGG	::: 423 IlelleSerAanGlyAanValAapAanAanLy8GlyLeuIleArgSerSerThrGlyHis 442	1507GGAGCTATTTATGCCAAAAAGCTCTCGGTTACTATGGG 1548	443 IleVallleGlyAlaAlaGlySerValAsnAsnGlySerThrLysThrAlaAspThrGly 462	1549 CCTGTACAATTTTA	463 SerSerAspSerLeuGlyllelleAlaAspThrGlyValGlulleGlyAlaAsnAsnile 482	1573 GCTAATGATGAGGATTTATTTAGGAGAATCTGAAGAGCTCAGTTTATCTGCT 1629	483 AsnAsnGlyGlyGlyGlnileAlaSerAsnGlyAsnValSerLeuSerTyr 500	1630GATTAIGGAGATAITAITTICGAIGGGAATCTTAAAAGA 1668 	501 SerThrlleAspAspTyrAlaGlyLysileLeuSerAsnSerLysVallleIleLysGly 520	CIG	521 SerSerLeuArgAsnAspThrGlyGlyIleSerGlyLysGlnGlyileGlu 537	1729 ATGGGATCGGGAGAAATAACGACATTAAGAGCTAAAGCAGGCATCAGATTCTCTTT 1788	538 ValAlaValdlyGlySerLeuThr545	1789 AATGATCCCATCGAGATGGCAAACGGAAATAACCAGCCGCGCGGTCTTCCAAACTTCTA 1848	546 554 554	1849 AAAATTAACGATGGTGAAGGATACACAGGGGATATTGTTTTTGCTAAT 1896	555GluGlyAspileSerLeuLeuAlaAsnSerValAsp 566	1897GGAAGCAGTACTTTGTACCAAAATGTTACGATAGAGCAA 1935	567 AgnHigGlyGlyPheMetMetGlyGlnAgnIleThrMetGluSerMetSerGlyValAgn 586	1936GGAAGGATIGTICTTCGTGAAAAGGCAAAATTATCAGTGAATTCTCTA 1983	587 AgnAgnThrAlaLeuileValAlaSerLysLysLeuLyslleAsnAlaArgGlySerIle 606	1984 AGTCAGACAGGIGGGAGTCTGTATATGGAAGCTGGAGTACATGGGATTTTGTAACTCCA 2043	AsnPheGly	2044 CAACCACCACAACAGCCTCCTGCCGCTAATCAGTTGATCAGCTTTCCAATCTGCATTTG 2103	624 MetProGlnGinThrGlyGlyMetValGlyLysGluGlyIleGluLeu 639	2104 TCTCTTCTTGTTAGCAAACAATGCAGTTACGAATCCTCCTACCAAT 2154		2155 CCTCCAGGGCAAGATTCTCATCCTGCAGTCATTGGTAGCACAACTGCTGGT 2205	660 LeuglnalağlınasnıhrPheAspAsnıhrArgalaLeuValThrSerGlyAlaAspAla 679	2206 TCTGTTACAATTAGTGGCCTATCTTTTTGAGGATTTGGATGATACAGCTTATGATAGG 2265	680 SerileGlnValGlyGlyThriyrTyrTyrAsnAsn 690		691 TyralaThrThrTrpSerAlaGlyAsnLeuAspIleAspAlaThrThrLeuGlnAsnSer 710
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3264	3.205 TATOGOACCATCTCTGGTACTGAGACAACGCTCTATCCCATCAAGAGACATGGACAACA	•
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3204	145 CGATGTTCTAGTACACATCCTAATAAATATAGCTTTATGGCGGCTTATATCTGTGATGCT	М
1001	σ	
3144	085 CGGGCATTCAAGAGGGGACATCTCTAAATCTATCAGTTCCTGTTGGAGTGAAGTTTGAT	М
994	:::	
3084	025 GIGCAAGCIGAGIITICIIATGCCGAICAIGAAICITITACAGAAGGAAGGCGAICAAGCI	м
979	::: 965 AsnAsnThrAlaLeuIleAlaAlaAsnLysLysLeuValIleAsn	
3024	965 GCGGGATTACCGATTACTCCATCTAAGCTCTATTTGAATGAGTTGCGTCCTTTC	71
964		
2964	944TGTCTGGCTGGAGAGATTGGA	71
944		
2943	893 AAAACCTCATATACATTTGCAGAGAGAGGGATGTTCGTTGGATAATAAC	7
925	::: 921 AsnTyrAspSerTyr	
2892		6
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2763	704 GGATCATCGATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAAGATTATGTA 276 	0
860		
2703	656 TATCOGTATATTAGTGGGGGTTATTCCTTAGGAGGAAACTCCTACTTT	7
840	 	
2655	623GCTTTAGGTCAGGATGCTTTAGGTCAGGA	61
820	::: ::: :::::	
2622	563 GCAAGTGTGGATGGGCGCTCTTATTGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTC	7
800		
2562	515 TTATGGGGATCCATTTTAGATATACGATCTGCGCATTCAGCAATTCAA	Ni.
780	::: ::: 766 AlaAlaGluLysGlyLeuAspIleAlaAlaLeuAsnGlyIleGlu	
2514	455 TGGACTAAAACTGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGT	6
765	::: 	
2454	398 AAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACA	7
750	::: ::: :::	
2397	2359 GGGAATGAGATGCCTAAGTATGGCTATCAAGGAAGCTGG	N
730		
000	2314TIAGGGACTAAGCCCCCAGCIAATGCCCCATCAGATTTGACTCIA	N

;; ; TIT yrAsnasn 1025 ; FIL. CTATG 3312 ; CUR h::::; ; CUR h::::; ; SEO hrLeuAsp 1045 ; SEO hrLeuAsp 1045 ; SEO hrleuAsp 1045 ; TY 3312 ; TY hrleuAsp 1065 US-11-	3345 1085 3396 1102 3456	Leuservalasp 1113 Qy TCCTATTCGTATGGA 3516 Db ::: AsnTyrGly 1120 Qy TTTAAGGGAGACGAT 3576 Db	1127 3636 1136	3804 1179 3864 1199	GAGACTAGT 3984 Db LeuAsnMet 1224 Qy	LysAspala 1244 Qy GCTGGT 4080 Db ThrGly 1263 Db
	Tyraenaentyralettrectaacaagt		Trp1leSerGlyGTTTGTCAAT	3745 GGAGAGACACTTACTCTGAGAGATTTTTCGAGTCTGATGTTCTCGAAAAATGTTTTTTGC 	1200 ASRARGGIYASIILEVAIGIYASPTYISERLEUGIYVAILYSTRITHTTT	Qy 3985 TTGGAGATCTCAGGCGTCAAAAAAGGGGTCATGTTCGATAATAAT
Db 1008 Qy 3265 Db 1026 Qy 3312 Db 1046				99 31 11 99 99 99 99 99 99 99 99 99 99 99 99	0b 12 0y 39 0b 12	96 35 00 12 00 00 12 00

Sequence 1245, Application US/11087099 Publication No. US20060041961A1 GENERAL INFORMATION:
APPLICANT: Abad, Mark S. et al.

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1078 GCTCCTATT--------GCCTTTGTAGCGAATGTTGCAGGAGTAAGA 1116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1117 GGGGGAGGGATTGCTGCTGCTGCAGGATGGGCAGGAGGTGTCATCATCATCTACAACA 1176
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        964 AAGAGCTTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAATACTGCTCAA 1023
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142 AlaGlyLeuLeuAlaThrThrLeuSer------IleLy8AspAsnAsnPheLeu 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |||::: |||
197 AsnGluGlyLeullelleAlaLysLeuGlySerValAlaLeuAlaSerGlyAsp----- 214
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           904 AATGAGAAGTTCTCATTCTATAGTAATTTAGTCTCTGGAGATGGGGGAGCTATAGATGCT 963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 682 GAGAACATACGGACTTCTACAAATGGGGCAGCTCTAAGTAATAGCGCTGCTGATGGACTG 741
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         622 TGTTTTGGGAACTTATTAGGGAGTTTTACTGTTTAGGGAGAGGACACTCGTTGACTTTC 681
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     565 GCAGGAGAGTTAA---AAAAICTIGACAAITCTATIGCAGCTITGCCTTIAAGT
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54 AlaGlyGlnValThrIleAspArgAsnLeuAsnAspThrIle---------
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68 -----IleAsnGlnAlaThrAspLysAlaIleIleAsnTrpLysAsnPheAsp-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ITLE OF INVENTION: Genes and Uses for Plant Improvement ILE REPERENCE: 38-21(53450)B EP URRENT APPLICATION NUMBER: US/11/087,099
TRENT FILING DATE: 2005-03-22
JUBER OF SEQ ID NOS: 12464
JENOTH: 3132
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300
192
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                                                                                                                                                                                                                                                           1.22e-14
270.50
34.1%
20.8%
3.4%
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Local Similarity:
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1337 COAGTAGGAGGATTTACTCCRACGGAACGTTGCTTTCCTGAATATGGAAAAACGT 23		267 OY 2 1455 Db 287 OY 2	307 Db 307 Qy 1515 Db 327 Qy 1575 Op	347 0y 2 1611 Db 367 0y 2	387 Db 685 1692 Qy 2608 407 Qy 2659	1752 Db 426 Qy 71806 Db 446 Qy 71866	465 Db 755 1926 Qy 2797 477 Qy 2848 1977 Db 795	497 QY 2878 2025 Db 815 2085 Db 831 528 QY 2998 2115 Db 851 548 QY 3055 2166
	1237 CGAGTAGGAGGATTTACTCCTACGGAACGTTGCTTTCCTGAATAATGGAAAAACC	LeuvalSerAsmithrGlyThrIleGlnalaAsid GCGCAAGCAGGATCC	SerLeuGlnLysLysAsnGlyLysIleTyrLeuG TTTAGTAGCAATGTAGCTGCTGGGA ::: ::: : SerAsnSerGlyIleLeuAspValSerAlaAlaG TATGCCAAAAAGCTCTCGGTTGGTAACTGGGCG	328 ValMetThrGlyHisPheValGlyAshGludiyVallied 1576 AATGATGGGAGCGATTTATTTAGGAGAATCTGGA 348 GlyAspGlyGlyGlnValThrLeulleSerAlaGlnHis1 1612GAGCTCAGTTTATCTGCTGATTATGGAGAT	368 ValileAspvalSerGlyGlyAlaAspSerGlyGrcGlyGlyValValGlnIleArgSer 1642ATTATTTCGATGGGAATCTTAAAAGAACAGCCAAAGAAATGCTGCCGAT 1642ATAATTTCGATGGGAATCTTAAAAGAACAAGAAAAAAAAA	1693 GTTAATGGCGTAATTAGCGGGAAGCCATTTCGATGGGGAAGGGAATAACG 1752 408 GlyGlyLeuValAspValSerSerGluGlyGluValGlnLeuIleGlyLysvalVal 426 1753 ACATTAAGAGCTAAAGCAGGGATCAGATTCTCTTTAATGATCCATCGAGATG 1806 427 GlyLeuAlaProArgGlyArgAsnAlaLysLeuValIleAspProLysHisleGluIle 446 1807 GCAAACGGAAATAACCAGCCAGTCGAGTCTTCCAAACTTCTAAAAATTAACGATGGTGAA 1866	447AsnaspalaGlyGlyGlyAlaTyrasnSerThrThr. 1867 GGATACACGGGGATATTGTTTTTTGCTAATGGAAGCAGT) 466 SerGlyThrThrVallleThrAlala	AladinvalalaAspvalvalieudinalaAsnTh TCTCTAAGTCAGACAGGTGGGAGTCTGTATATGGA :::::::: AsnilealaAsnAlaGlyThrGlyLeuThrLeuGl TGGGATTTTGTAACTCCACACCACCACACCC

TCGGGCATTCAAGAGC-----GGACATCTC 3108 AACTGCTGGTTCTGTTACAATTAGTGGGCCT 2226 AGCAAACTCCTAC----TYTYGGATCATCG 2712 TTATGATAGGTATGATTGGCTAGGTTCTAAT 2286 AGGGACTAAGCCCCCAGCTAATGCCCCATCA 2346 STATGGCTATCAAGGAAGCTGGAAGCTTGCG 2406 AACTGGGTATAATCCTGGGCCTGAGCGAGTA 2493 ATCCATTTTAGATATACGATCTGCGCATTCA 2553 ICATGACCGCGATGCTTTAGGTCAGGGATAT 2658 CATCATGCTTGCATA------GGA 2796 ATGTGGATCCTAT---TTGTTCGGA---- 2847 GAIGCGTTTATCCGTGCTAGCTACGGGTTT 2877 ATTIGCAGAGGAGAGCGATGTTCGTTGGGAT 2937 GGGATTACCGATTGTGATTACTCCATCTAAG 2997 GCAAGCTGAGTTTTCTTATGCC---GATCAT 3054 TTATACT----CTGAAA 2448 GCGCTCTTATTGTCGAGGATTATGGGTTTCT 2607 TGGT-----AGA 2748 lalaglyalailevalLeuglyasnaspgly 870 ||| ::: -----ThrAlaAspAsn 617 |||| eAspGluSerLysIleValAsnLeuAsnLeu 814 rPheMetLeu------ValValThrAsp 830 rdlyThrAsnileThrAlaGlySerAlaAsn 850 eValAsnGlyProAsnPheAlaSerGlySer 608 -----ThrGlySerLeuThr11eAla 633 |||| | nValThrThrThrSerThrValAsn1leLys 653 nArgdlySerGlyAspGlyAlaIleSerMet 673 |||||||::: ::: |SerSerHisAspAlalleThrGlu----- 722 ndlyalaryrıleglyalaProglyThrSer 754 ::: BThrArgValAspValThrThrAsnAsnGly 774 | |||::: uSerGlyThrValAspTrpPheGlyAlaAla 794 GlySerAlaAlaValAsnMetThrIleAsp 568 |||| nAlaSerThrAlaGlyGlylleThrIleAsp 704

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ORGANISM: Helicobacter pylori J99
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257.50
31.4%
20.1%
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US-11-052-554A-91
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|111 lleThrGlySerGlyLyBSerPheTyrlleAspGluSerAspAlaLeuThrSerlleAsn 1130
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MetValSerAlaValGlyGlySerValThrIleAspGlyGlyThrGlySerIleLeuAsp 1072
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                                                                                                                         3217 TCTGGTACTGAGACAAGGCTCCTATCCCATCAAGAGACATGGACAACAGATGCCTTTCAT 3276
                                                                                                                                                                         3337 GAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGT 3396
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACAGATTCTCAAGGGCCAGTTCTTCAAAATTATGCCTTCATTTCAGCAGGAGACACTT 3756
                         CTAAATCTATCAGTTCCTGTTGGAGTGAAGTTTGATCGATGTTCTAGTACACATCCTAAT 3168
                                                                        AAATATAGCTTT------ATGGCGGCTTATATCTGTGATGCTTATCGCACCATC 3216
                                                                                                                                                                                                                                                                           3397 GCAGGAAGTAGAGTCCGGTTCTAAAATATTGGTTAGATAGTTAAGTGTTAGCGATGCCT 3456
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                                                                                                                                                                                             ThrArgGlyGlySerIleGlyAspAlaThrHisAlaLeuLysThrGluLeuGlyIleLeu 890
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ----LeuAsn------kladiyLeuAsnMetGly---
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ThrAlaGlyGlyHisAspValValIleAsnAlaSerAspGlyValLeuSerLeuGly
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                                                                                                                                                                                                                                                                                                                                                                                                      -------AsnIleLeuAlaLysAsnValVal---------
                                                                                        ::: ||| ::: ::|||| SerlleAgnAlaAgnGlnLysGlyValThrAlaLysValAgnSerSerTyrAlaValVal
                                                                                                                                          ThrSerThrAlaGlyAsnIleTyrAspAsnAsnAspAlaThrAsn-------
                                                 ThralaSerSerSerAsnGlySerValTyrIleAspGluAlaSerGlyIleLeuIleAsn
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Sequence 91, Application US/11052554A

Sequence 91, Application US/11052554A

Publication No. US2005028886A1

GENERAL INFORMATION:
FURLE OF INVENTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE

TITLE OF INVENTION: PROTEINS OF THERAPEUTIC POTENTIAL

TITLE OF INVENTION: PROTEINS OF THERAPEUTIC POTENTIAL

TITLE OF INVENTION: ONWHER: US/11/052,554A

CURRENT RELING DATE: 2005-02-07

PRIOR APPLICATION NUMBER: US 60/589,227

PRIOR APPLICATION NUMBER: IN 173/DEL/2004

PRIOR FILING DATE: 2004-07-06

NUMBER OF SEQ ID NOS: 763

SOFTWARE: PatentIn version 3.3

SEQ ID NO 91

LENGTH: 2902 |:::||| ::: 1164 |ThrPheGluABnThr------GlyGlyGlyValAlaIleGlyThrValThrAl 1180 4210 TITCAAAGACAATGAAGGAGGCATATTCTTCCGAGGGAACACAGCATACGATGATTTAAG 4269 -AlaThrSerAlaIleThrAlaAspThrValValLeuThrAlaGlyThrSerIleGlyAl 1215 564 625 TTTGGGAACTTATTAGGGAGTTTTACTGTTTTAGGGAGGA---CAC------ 669 ||||||| :::|||||| ---GlyAsnArgValGlySer------GlyAlaGlyThrHisThrGlyThrAla 198 403 TICTITICAATGATICTAGCTTATTCTTGCTGCTCTTTAAATGGGGGGGATATGCA 462 :::|||||||||| 119 TyrPheLeuSerGlyLeuTyrAsnTyrThrGlyGlyGluTyrAsnGlyGlyAsnLeuAsp 138 GCAGGAGAGACTTAAAAAATCTTGACAATTCTATTGCAGCTTTGCCTTTAAGTTGT 624 463 GCAGAAATC-----ATGGTTCCTCAAGGAATTTACGATGGGGAGACGTTAACT 139 IledluLeuGlySerAsnAlaThrPheAsnLeuGlyAlaSerSerGlyAsnSerPheThr 4270 GATTCTTGCTGCTACTAATCAGGAT-------CAGAATACGGAGACAGGAGG 511 GTATCATTTCCCTATACTGTTATAGGAGATCCGAGTGGGACTACT-----GTTTTTCT a-----ThrGlyGlySerAlaThrIleThrAlaSerThrAlaIleThrAsp-----4315 CGGTGGAGGAGTATTTGCTCTCCAGATGATTCTGTAAAGTTTGAAGGCAATAAAGGTTC 2902 302 171 472 560 Length: Matches: Conservative: Mismatches: Indels: US-10-701-844-1 (1-4435) x US-11-052-554A-91 (1-2902)

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1705	ACTGTGTCCTCACAAGCCATTTCGATGGGATCGGGAGAAATAACGACATTAAGAGCT 1764
1765	AAAGCAGGGCATCAGATTCTTTAATGATCCCATCGAGATGGCAAAGGGAATAACCAG 1824
1825	CCAGCGCAGICITCCAACTTCTAAAAATTAACGATGGTGAAGGATACACAGGGGATATT 1884
1885	GTTTTTGCTAATGGAAGCAGTACTTTGTACCAAAATGTTACGATAGAGCAAGGA 1938
1939	AGGATTGTTCTTCGTGAAAAGGCAAAATTATCAGTGAATTCTCTA
1984	AGTCAGACAGGTGGGAGTCTGTATATGGAAGCTGGGAGTTACATGGGATTTTGTAACT 2040 ::::::::
2041	CCACAACCACCACAACAGCCTCCTGCGGCTAATCAGTTGATCAGGCTTTCCAATCTGCAT 2100
2101	TIGICITITICITICITIGITAGCAAACAAIGCAGTTACGAAICCTCCTACCAATCCTCCA 2160
2161	GCGCAAGATTCTCATCCGGCAGTCATTGGTAGCACACTGCTGCTGGTTGCTTAGT 2220
2221	GGGCCTATCTTTTGAGGATTTGGATGATACAGCTTATGATAGGTATGATTGGCTAGGT 2280
2281	TCTAATCAAAA ::: SerHisAsnSe
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È	3406 AGAGTCCGGTTCTAAAATATTGGTTAGATAAGTGTAAGTGTTAGCGATGCCTTTTTCTTTG 3465	셤	: 1191 uSerGlyAsnA
q	893 Alaval 894	ò	4354 GTTTGAAGGCA
È	3466 AGAICTACATCTTTTGTTTTTAGCTTGTTTGTGTTCCTATTCGTATGGATTCGCGAGC 3525	: A	
q	895PheGlyAsnSerThr 899	8	4405 CAGAGGCGGAA
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đ	900 AsnGlySerGlnAsnThrAlaAsnPheAsnAsnThrGlySerValAsnIle 916	RESULT	23
È	3586 AATGGAGACTGCGCTTTTGTCAATGTCTATGCAGGAGCTGAAGAAGGTTCGATTATCTCA 3645	US-11-	US-11-052-554A-90 ; Sequence 90, Applicatic
q	917 AladiyasnalathrPheAspAsnValValPheAsnSerProThrAsnThrSerValLys 936	Publ	ication No. US20050 RAL INFORMATION:
È	3646 GCTAATGGCGACAATTTAACGATTACCGGACAAAACCATACATTATCATTACA 3699	API	; APPLICANT: Sachdeva, e

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COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE
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|PheSerGlnThrPheThrGlyGlnAgnSerAlaIleValPheGlyAlaLy 1133
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ThrSerValSerAspAlaProGlnSerAsnVallleIleArgPheGlyAs 1153
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GlyHis-----TyrGluAlaGlnLysIleTyrIleThrGlySerIleGl 1191
                                          CCGGAGCCAGGC----GAAGTGATTTTCTGGGATAACTCCGTGGGGTAT 3888
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|adjyAsnGlyValTyrAspValValTyrSerPheAsnAsnGlnThrTyr 1035
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| IngluValPheSer---ProAsnSerIleSerIleArgArgLeuGlyVal 1053
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|heAspTyrValAspMetGluLysSerAspArgLeuTyrTyrGlnAsnAla 1073
                                                                                                                                                                                                                             -------GITICTIGCGGAGAAAAGGGAAIGAICTCCGGGAAAACC 3834
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suTrpGlnLeulleAsnTyrGlnGlyHisGlyAlaSerSerGluLysLeu 1015
                                                                                                                                     -----TTC 3786
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rolleThrLeuValSerSerLysAlaIleGluTyrAsnAspAlaPhe 995
sValThrLeuAsnAsnIleThrLeuLysAsnLeuAsnAlaProLeuSerPheGly 956
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| GlyGlySerIleThrPheThrAsnSerAsnIleAsnHisTyrLysLeuAsnLeuAsnAla 295
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|IleGlyAsnAlaTyrIleLeu---AsnAlaAsnAsnIleThrPheAsnAsnLeu-----
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    PROTEINS OF THERAPEUTIC POTENTIAL
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Mismatches:
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Matches:
FILE OF INVENTION: PROTEINS OF THERAPEUTIC FILE REFERENCE: 30653/4039A
CURRENT PELLOTION NUMBER: US 60/55.554A
CURRENT FILING DATE: 2005-02-07
PRIOR APPLICATION NUMBER: US 60/589,227
PRIOR APPLICATION NUMBER: US 60/589,227
PRIOR PILING DATE: 2004-07-20
PRIOR APPLICATION NUMBER: IN 173/DEL/2004
PRIOR FILING DATE: 2004-02-06
NUMBER: OF SEQ ID NOS: 763
SEQ ID NO 99
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i TYPE: PRT

; ORGANISM: Helicobacter pylori J99

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1195 TTTTCCAGAAATACTGCGGTAGAGTTTGATGGGAACGTAGCCCCGAGTAGGAGGAGGG--- 1251
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                                                                                                        976 -----GTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAAT 1014
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ||| ::: ||| ::: GlyAlaGlnThrAspPheThrPheSerLysGlyValValPheAsnMetGlnGlyLeuLeu 805
                                  588 ThrLeuAsnPheValGlyAlaThrGluIleAsnIleAlaGlyAlaThrPheLy8AsnLeu 607
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648 ThrGlyAanGlyValPheAspSerValAsnPheAsnLysAlaTyrTyrLysPheGlnGly 667
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----AAAACAGATCTTTTGTTACTCAATAATGAGAAGTTCTCA--
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	1870	TACACAGGGATATTGTT
ATTOSTICTICOTGAMAGCGAMATTATCAGGGGGGGGGGGGGGGGGGGGGGG	1888	TITGCTAATGGAAGCACTACTTTGTACCAAATGTTACGATAGAGCAAGGAAGG
	863 1942	ValGinPhefihrAspasmGiyLeuinriyriyriitleysGinashreashashGiy ATTGTTCTTCGTGAAAAGGCAAAATTATCAGTG
AlaPheAsmLeuLyshanValAshaNalAshasmlanAshanThe	882	
ANCACTGAGAGTACACCACACACACCACCACACACCCCCCCC	1975	
ABRIGLYMETTITION	2011	GAAGCTGGGAGTACATGGGATTTTGTAACTCCACAACCACCACAAACAGCCTCCTGCCGCT
AMICAGITGATCACGATCTCCAATTGCTCTTTCTTTCTTTGTTAGCAAACAT 2130 ThirdlyvalPheThicGlasp	920	
ThrdlyvalphePhrGlnAspryserGlyThrAsmSerValLeuValPheAsh 947 GCAGTTACG GLTATACG GLTATACGCACTCCTACCAATCCTCCAAGCGCACAGATTC7 2172 GLTTATALProPheLeuAlaGlyAlaAsmPloThtSetAsh	2071	AATCAGTTGATCACGCTTTCCAATCTGCATTTGTCTCTTTCTT
GGAGTTACG	930	ThrGlyValPheThrGlnAspTyrSerGlyThrAsnSerValPeuValPheAsn
CATCCTGCAGGACTATTATTATTATATTATTATATTATA	2131	GCAGTTACGAATCCTCCTACCAATCCTCCAGCGCAAGATTCT
ATTAGTGGGCCTATCTTTTTGATGATGATACAGTATAGATAG	2173	CATCHIC III F OF HELEWATS AND AND AND AND AND AND AND AND AND AND
ATTAGTGGGCCTATCTTTTTGGGATTTGGATAGAGGTTATGGTGGTTATGATGGTTGGGG	962	::: ::: SerValValGlyPheGlyLysThrSerGlyAlaGluTrpGlyLeuValGlyTyr
	2215	ATTAGTGGGCCTATCTTTTTTGAGGATTTTGGATGATACAGCTTATGATAGGTATGATTGG
CTAGGGTTCTAATCAAAAATCAATGTCCTGAAATTACAGTTAGGGACTAAGCCCCCAGCT 2334 GlyThrIleArgSerGlyAanGlyAlaLysThrGlyGlyAlaThrLeuValPhe 1011 AATGCCCCATCAGAGAATTCACTCTAGGGAATGAGATGCCTAAGTATGGCTAT 2385	980	 IleGlnGlyValPheLysAlaAsnGlnIleAspIleThr
diythrileargserGlyAbnGlyAlaLysThrGlyGlyAlaThrLeuValPhe 1011 AATGCCCCATCAGATTTGACTCTAGGGAATGAGATGCCTAAGTATGGCTAT 2385	2275	CTAGGTTCTAATCAAAAATCAATGTCCTGAAATTACAGTTAAGGACTAAGCCCCCAGGT
AATGCCCCATCAGATTTGACTCTAGGGAATGAGATGCCTAAGTATGGCTAT 2385	993	
CAAGAAGCTGGAAGCTTGCGAACTATACAGCAAAT	2335	AATGCCCCATCAGATTTGACTCTAGGGAATGAGATGCCTAAGTATGGCTAT
	2386	CAAGGAAGCTTGCGTGGGATCCTAATACAGCAAAT
2457 1070 2517 1072 2577 1074	1032	::: ::: GlnasnSerTrpMetasnPheIleValAsnAsnGlyAsnLeuAsnValThrAsnAla
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TGGGGATCCATTTTAGATATACGATCTGCGCATTCAGCAAGTCAAGTGTGGATGGG 2577 Gly8er	107:	
Glyser 1074 CGCTCTTATTGTCGAGATTATGGGTTTTCGAATTTCTTCTATCATGACCGC 2637 	251	
CGCTCTTAITGTCGAGGATTATGGGGGTTTCGAATTTCTTCTATCATGACCGC 2637	107:	dlyser
ValSerGlyGlyAbnPheGlyValAspAsnAla	2578	CGCTCTTAITGTCGAGGATTATGGGTTTCTGGAGTTTCTATCTATCATGACCGC
	107	ValSerGlyGlyAbnPheGlyValAspAsnAla

q	1087	::: AgnalaAgnGlyAgnAlaValIleLygAgnValAgnPheSerAgpAgnGlyThrLeulle 1106
č	2677	TATTCCTTAGGAGGAAACTCCTACTTTGGATCATCGATGTTTGGTCTAGCATTTACCGAA 2736
qq	1107	
č	2737	GTATTIGGTAGATCTAAAGATTATGTAGTGTGTGTCGTTCCAATCATCATGCTTGCATAGGA 2796
qg	1121	GluasnasnThrPheasnSerTyrAsnIleAsnalaLysAlaGln 1135
È	2797	TCGGTTTATCTATCTACCCAACAAGCTTTATGTGGATCCTATTTGTTCGGAGAT 2850
qq	1136	AsnieullePheAsnAsnAsnSerPheAsnSerGlySerTyrSerPheAsnAspThrLys 1155
δ	2851	
qq	1156	AsnValThrPheLysGlyThrAsnThrLeulleAsnSerAspProPheSerArgLeuLys 1175
à	2863	GCTAGCTACGGGTTTGGGAATCAGCATATGAAA 2895
Ob	1176	 GlyServalSerIleAspAsnAsnSerIlePheAsnIleGluArgAspLeuThrAspLys 1195
λ̈́O	2896	ACCICAIRIRCAITIGCAGAGGAGAGGAIGTICGIIGGGAIRAIRACTGICIGGCI 2952
QQ	1196	ThrThrTyrThrLeuLeuSerGlyAspAsnIleLysTyrAsnAsnGlnAlaLeuAlaAsp 1215
ò	2953	GGA
QQ QD	1216	AsnValPheSerLysAsnLeuTrpAspLeuIleHisTyrAspĠlyĠluGlnĠlyThr 1234
ò	2971	TTACCGATTGTGATTACTCCTATCTAAGCTCTATTTGAATGAGTTGCGTCCTTTCGTGCAA 3030
qq	1235	.::::: ::: EquelourgThrAspAsnAsnThrTyr
à	3031	GCTGAGTTTTCTTATGCCGATCATGAATCTTTTACAGAAGGAAG
qq	1247	
È	3091	TICAAGAGCGGACAICTCCCTAAAICTAICAGIICCTGTIGGAGTGAAGTITGAICGAIGI 3150
QQ	1257	Phedluglu 1259
ολ	3151	TCTAGTACACATCCTAATAAATATAGCTTTATGGCGGCTTTATATCTGTGATGCTTATATCGC 3210
qq	1260	ThrPheAsnProGlySerileThrTyrLysTyPhe 1271
ò	3211	ACCATCTCTGGTACTGAGACAACGCTCCTATCCCATCAAGAGACATGGACAACAGATGCC 3270
QQ	1272	ThrileHisSerSerProPheHisThrGluAlaAspSerLysAspIle 1287
ò	3271	TTTCATTTAGCAAGACATGGAGTT3306
qq	1288	TrpAsnGlnValArgLysGlnPheAspPheIleProGlyLysThrProValCysValGly 1307
È	3307	TCTATGTATGCTTCTCTAACAAGTAATATAGAAGTATATGGCCATGGAAGATATGAGTAT 3366
qa	1308	ValCysTyrileAlaProTyrLysAsnGlnAspLeuileGlySerSerAlaPhe 1325
ò	3367	CGAGAIGCTICTCGAGGCTAIGGTTIGAGIGCAGGAAGIAGAGICCGGTICTAAAAATAT 3426
Db	1326	AlaTrpSerLeuAsnPheGlyAlaThrVal 1335
ò	3427	TGGTTAGATAGTTAAGTGTTAGCGATGCCTTTTTCTTTGAGATCTACATCATTTTGTTTT 3486
QQ	1335	1335
ò	3487	TTAGCTTGTTTGTGTTCCTATTCGTATGGATTCGCGAGCTCTCCTCAAGTGTTAACGCCT 3546
Db	1336	::: ValGlyThrLeuLeu
ò	3547	AATGTAACCACTCCTTTTAAGGGAGGACGATGTTTACTTGAATGGAGACTGCGCT 3600

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Sequence 16, Application US/11052554A

Sequence 16, Application US/11052554A

Publication No. US20050288866A1

GENERAL INFORMATION:

APPLICATI: Sactideva, et al.

TITLE OF INVENTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE

TITLE OF INVENTION: PROTEINS OF THERAPEUTIC POTENTIAL

TITLE OF INVENTION: UNMBER: US/11/052,554A

CURRENT PILING DATE: 2005-02-07

PRIOR APPLICATION NUMBER: UN 60/589,227

PRIOR FILING DATE: 2004-07-20

PRIOR FILING DATE: 2004-07-206

NUMBER OF SEQ ID NOS: 763

SOFTWARE: Patentin version 3.3

SEQ ID NO 16

LENGTH: 1250

TUBER OF SEQ ID NO 16

TENDER OF SEQ ID NO 16
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ORGANISM: Escherichia coli 0157:H7
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|686 eAsnLeudsnGlySerSerLeuLeuSerPheAsnGlyAsnSerValPheAsnAlaPro-- 1705
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1646 aLysAsnIleHisLeuAsnPheGlnGlyAlaSerThrPheGluAsnAsnSerThrMetAs 1666
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1351 AsnGlyGlySerIleTrpPheGlyLysAsnAsnLeuLeuTyrLeuHisGlyAsnPheAsn 1370
                                           3634 TCGATTATCTCAGCTAATGGCGAC---AATTTAACGATTACCGGACAAAACCATACATTA 3690
                                                                                                                                                  3739 TCAGCAGGAGAGACACTTACTCTG----3774
                                                                                                                                                                                                                                       ---AGICTGATGTTCTCGAAAATGTTTCTTGCGGAGAAAAGGGAATGATCTCCCGGGAAA 3831
                                                                                             4174 TTGCGGAGGCGGAGTGGTTTAAAAGGCATTGTGCTTTTCAAAGACAATGAAGGA---GG
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                                                                                                                                  3691 TCATTTACAGATTCTCAAGGGCCAGTTCTTCAA------AATTATGCCTTCATT
                          3601 TTTGTCAATGTCTAT------GCAGGAGCTGAAGAGGT
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1113 GOCATICCTGCTGCTTCAGGATGCGCAGGAGGTCTCATCATCATCACAGAGAT 1182 DW 113 CCCGGTATCACTCCTCGGAAATACCCGCAGGAGTCTCACTCA	2032 TTTGTAACTCCACAACCACCACAACAGCCTCCT	2092 AATCHGCATTTGTCTTTCTTCTTTGTTAGG	422222 AATCCTCCAGCGCAAGATTCTCATCCTGCAGTC	423	426 ThrValAsnGlnGlySerPheAlaGlyThrll	2272 IGGCTAGGTTCTAATCAAAAATCAATGTCCTV	2332 GCTAATGCCCCATCAGATTTGACTCTAGGGAA; :: 442LeuThrlleAlaGli	2392 AGCTGGAAGCTTGCGTGGGATCCTAATACAGC	2452 ACATGGACTAAAACTGGGGTATAATCCTGGGCC	::: 469 GlyAlaValLeuSerLeuGluGlyAspAlaAla	2497TCTTTGGTTCCAAATAGTTTATGGGGATC(된_	505		73	537 GlyaenAspMet		2788 TGCATAGGATCCGTT	2827	:::	2887 CATATGAAAACCTCATATACATTTGCAGAGGA :: :: :: 594 AsnardGlnValllePheThrAspLvsProGl	N		3007 AATGAGTTGCGTCCTTTGGTGCAAGCTGA 	
1133 GGGATTCCTCCTCTTCAGGATCGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCA	<i>∂</i> ; <i>f</i>	₹ &	음 <i>장</i>		· 음 	장 옵	& A	8 8		4 0	<i>&</i> €	· &		ਤੇ ਜ਼ੋ 	8	ద ઠે ——		8 8			<i>6</i> ∄	· 6		<i>δ</i> =	
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ATTGTCGAGGATTATGGGTTTCTGGAGTT 2613 AGAGCGATGTTCGTTGGGATAATAACTGT 2946 TTGTGATTACTCCATCTAAGCTCTATTTG 3006 AGTTTTCTTATGCCGATCATGAATCTTTT 3063 ----TATCTATCTACCCAACAAGCTTTA 2826 CAAATAATGGTCCTTATACTCTGAAAGCT 2451 CTGAGCGAGTAGCT-----2496 TAGGTCAGGGATATCGGTATATTAGTGGG 2673 GATCATCGATGTTTGGTCTAGCATTTACC 2733 ATGTAGTGTGTCGTTCCAATCATCATGCT 2787 AAGAGCGGACATCTCCTAAATCTATCAGTT 3123 TCATTGGTAGCACAACTGCTGGTTCTGTT 2211 TGGATGATACAGCTTATGATAGGTATGAT 2271 TGAAATTACAGTTAGGGACTAAGCCCCCA 2331 ATGAGATGCCTAAGTATGGCTATCAAGGA 2391 hrargSerThrThrThrGluHisGlyarg 625 CTGCCGCTAATCAGTTGATCACGCTTTCC 2091 CAAACAATGCAGTTACGAATCCTCCTACC 2151 || |aLeuThrGlyAspIleValValAspAla 468 ::: |||| |aAspLeuAlaAlaLeuGlnAspAspPro 488 :: ::::::||| alAsp------reuAlaGly 536 :: | IngluservalMet------ 608 |||||| ------AlaAspGlyGluValAla 636 -----GlyAsnval 425 leglu----- 437 ln-----AsnGly 448

Db 930 ProAspProAspProThrGlnAspProAspProGluProThrPro 948 Qy 3964 ATTTTTCTGTAGAGACTAGTTTGGAGATCTCAGGCGTCAAAAAAGGGGTCATGTTCGAT 4023	SULT 25 5-11-052-5548-172 Sequence 172, Appli Septication No. US2 GENERAL INFORMATION APPLICANT: Sachdew TITLE OF INVENTION FILE OF INVENT	SOFTWARE: Patentin version 3.3 SOFTWARE: Patentin version 3.3 SOFTWARE: Patentin version 3.3 LENGTH: 1643 TYPE: PRT ORGANISM: Rickettsia prowazekii JENGTH: 1643 JENGTH: 1644 JE	Qy 604 GCAGCTTTGCCTTTAAGTTGTTTTGGGAACTTATTAGGGAGTTTTACTGTTTTAGGAGA 663	Qy 724 AGGGTGTGTGTGTGTGTGTGTTTAAAGAATTATCCTTTTCCAATTGC 783	Qy 844 ACAACATCTACACCGTCTAATGGTACTATTTATTCTAAAACAGAT 888	Qy 889 CTTTGTTACTCAATAATGAG
AspThr TTTATG ::: ThrLeu CTCCTA ::: AlaVal	684 ArgValGiudiudiyThrLeudlnGlyAspValAlaAspilebheProTyrAiaSerSer 703 3289 GGAGTTGTGGTTAGAGGATCTATGTATGCTTCTAACAAGTAATATA 3336 704 LeuTrpValGlyAspGlyAlaThrPheValThrGlyAlaAspGlnAspIleGlnSerIle 723 3337 GAAGTATATGGCATGGAAGATATGAGTATCGAGGCTATGGTTTGAGT 3396 111	3511 TATGGATTCGCGAGCTCTCCTCAAGTGTTAACGCCTAATGTAACCACTCTTTTAAGGGA 3570 761 LeuValAsnalaThrAspGlyValThrLeuThrGlyGluLeuAsnThrAsnLeuGluThr 780 3571 GACGATGTTTACTTGAATGGAGCTGCGCTTTTGTCAATGTCTATGCAGGAGCTGAA 3627 781 AspSerLeuThrTyrLeuSer	3745 GGAGAGACACTTACTCTGAGAGATTTTTGGAGTCTGATGTTCTCGAAA 3792 ::: ::: :::	3838	3859	3880 GTGGGGTATTCTCCTTTATCTACTGTGCCAACC 3912

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CIFYING ADHESIN AND ADHESIN-LIKE WIIAL
                        AAAAAAGGGGTCATGTTCGAT 4023
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500	GlnAsnalaLeumetAsnasnasnalaLeuAlaAlaGlySerileGinLeu 516 Aaccargorgaaggatacacagggatartgrttttgcraatggaagcagtact 1908
517	 AspGlySerAlalleIleThrGlyAspIleGlyAsnGlyValAsnAla 533
1909	TIGTACCAAAATGTTACGATAGAGCAAGGAAGGATTGTTCTTCGTGAAAAGGCA 1962
1963	AAATTATCAGTGAATTCTCTAAGTCAGACAGGTGGGAGTCTGTATATGGAAGCTGGG 2019 ::: ::
2020	AGTACATGGGATTTTGTAACTCCACAACCACCACAACAGCCTCCTGCCGCTAATCAGTTG 2079
2080	ATCACGCTTTCCAATCTGCATTTGTCT
2116	TIGITAGCAAACAAAGGATTACGAATCCTCCTACCAATCCTCCAGCGCAAGATTCTCAT 2175
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2416	AATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAAACTGGGTATAAT 2475
2476	CCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGTTTATGGGGATCCATTTTAGAT 2535
2536	ATACGATCTGCGCATTCAGCAATTCAAGCAAGTGTGGG
2581	TCTTATTGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTCTTCTATCATGACCGCGAT 2640
2641	GCTTTAGGTCAGGGATATCGGTATAGTGGGGGTTATTCCTTAGGAGCAAACTCCTAC 2700
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3598	3612 ValSerA	1582 GGTGGAG	3621 GlyAenS	1633 TATGGAG	3641 IleAsnT	1693 GTTAATG	::: 3661 LeuAsnG	1747 ATAACGA	3681 ThrTyrT	1807 GCAAACG	3701 LeuAlaA	1867 GGATACA	3720 GlyAsnP	1927 ATAGAG-	3740 ileAlaT	1981 CTAAGTC	3760 IleSerG	1993 GGTGGGA	3780 ThrTrpS	2053 CAACAGO	3797	2113 TCTTTGI	::: 3812 AlaThrV	2173 CATCCTG	3822	2233 TTTGAGG	3836 ThrVall	2293 ATCAATC	3854 GlySer	2353 ACTCTAC	3874 T	2404	3894 LeuGly	2455 TGGACTI	3914 ValSeri
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3598	AlaAlaAspValAlaAlaLeuSerAspGlyThrSerTyrThr
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3612	 ValSerAlaSerAlaGlnAspSerAla 3620
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1633	TATGGAGATATTATTTTTGATGGGAATCTTAAAAGAACAGCCAAAAAAAA
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3661	895
1747	ATAACGACATTAAGAGCTAAAGCAGGGATCAGATTCTCTTTAATGATCGACGATGGAAGG 1806
	186
3701	371
1867 3720	GGATACACAGGGGATATTGTTTTGCTAATGGAAGCAGTACTTTGTACCAAAATGTTACG 1926
1927	ATAGAGCAAGGAAGGATTGTTCTTCGTGAAAAGGCAAAATTATCAGTGAATTCT 1980
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2053	81
2113	TCTTTGTTAGCAAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGCGCAAGATTCT 2172
3812	AlaThrValSerAspGlnAlaGlyAsnPrO 382
2173	CATCCTGCAGTCATTGGTAGCACAACTGCTGGTTACTACAATTAGTGGGCCCTATCTTT 2232
2233	TTTGAGGATTTGGATGATAACAGCTTATGATAGGTATGATTGGCTAGGTTCTAATCAAAA 2292
83	ThrValThrIleAsnThrPheAlaGlyAspAspValValAsnAlaAlaGluHis 3853
2293	ATCAATGTCCTGAAATTACAGTTAGGGACTAAGCCCCCAGCTAATGCCCCATCAGTTTG 235
3854	GlyserserbeuvalileserGlyThrThrThrAlaProvalGlyGlnThrbeuThrbeu 387
2353	ACTCTAGGGAATGAGATGCCTAAGTATGGCTATCAAGGAAGCTGGAAGCTT 2403 ThrLeuAsnGlyLysThrTyrThrThrThrValGlnThrGlyGlySerTrpSerTyrThr 3893
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6	LeuGlySerAlaAspValThrAlaLeuAlaAspGiyAshAlatyrValileAshAlaSel 551
2455	TGGACTAAAACTGGGTATAAICCTGGGCCTGAGCGA
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qa	3934 AlaProAlaMetGlyIleAsnIleAspSerLeuGlnAlaAspThrGlyLeuSerAlaSer 3953	2490
È	2491GTAGCTTCTTTGGTTCCAATAGTTTTATGGGGATCCATTTTAGATATACGATCT 2544	4213
qq	3954 AspPhelleThrSerValSerProValValValAsnGlySerLeuThrAlaAlaLeuAla 3973	3550 GTAACCAC
È	2545 GCGCATTCAGCAATTCAAGCAAGTGTGGATGGGCGCTCTTATTGTCGAGGATTATGGGTT 2604	4224
ପ୍ଧ	3974 SerAsnGluThralaGlnIleSerIleAspGlyGlyThrThrTrpThrThrLeuThrVal 3993	3610
È	2605 TCTGGAGTTTCGAATTTCTTCTATCATGACGGATGCTTTAGGTCAGGGA 2655	4239
q	3994 ThrGlyThrThrTrpArgTyrAsnAspSerArgThrLeuThrAspGlyAsnTyrLeu 4012	3670
È	2656TATCGGTATATTAGTGGGGGTTATTCCTTAGGAGCAAACTCCTACTTTGGATCA 2709	4250
ą	4013 TyrGlnValArgValIleAspAlaAlaGlyAsnValGlyAlaThrAsp 4028	
È	2710 TCGATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAAGATTATGTAGTGTGT 2769	
đ	4029	3781
È	2770 COTTCCAATCATGCTTGCATAGGATCCGTTTATCTATCTACCCAA 2817	4080
đ	ii: 4036 ThrThralaProAspProAlaValLysThrIleAlaIleSerAlaIleThrThrAspMet 4055	1400
È	2818 CAAGCTTTATGTGGATCCTATTTGTTCGGAGATGCGTTTATCCGTGCTACGGGTTT 2877	4299
đ	ThrAsnAspPheValThrSerAspThrThrL	1006
ò	2878 GGGAATCAGCATATGAAAACCTCATATACATTTGCAGAGGAGAGCGATGTT 2928	4312
đ	4076 GlyAlaThrLeuSerAlaGlyGluPheAlaGlnIleSerLeuAspGlyGlyVal 4093	3961
È	2929 CGTTGGGATAATAACTGTCTGGAGAGAGATTGGAGCGGGATTACCGATTGTGATTACT 2988	4329
q	4094 ThrTrpThrThrLeuThrValValGly	6704
È	2989 CCATCTAAGGTCTATTTGAATGAGTTGCGTCCTTTCGTGCAAGGTGAGGTTTTCTTATGCC 3048	
g	4103ThrSerTrpSerTyrAla 4108	4081
È	3049 GATCATGAATCTTTTACAGAGGAA 3072	4352
셤	 4109 AspGlyHisThrLeuThrAspGlyThrTrpAsnTyrThrValArgValValAspLeuAla 4128	4132
È	3073 GGCGATCAAGCTCGGGCATTCAAGAGCGGACATCTCCTAAATCTATCAGTTCCTGTTGGA 3132	4372
ପ୍ଧ	4129 GlyasnvalGlyGlnThraleThrGlnAsnValvalAspThrThrSerProGluAla 4148	4175
È	3133 GTGAAGTTTGATCGATGTTCTAGTACACATCCTAATAAATA	
ପ୍ଧ	4149 Alalys 4150	4004
È	GATGC	4412
셤	4151SerlleThrIleThrGlylleSerAspAspThrGlyThrSerSerSer 4166	4258
ò	TTCATTTAGCAAGACA	
셤	:::	DD 442/ ISEIABD 4429
È	TGCTTCTCTAACAAGTAATATAGAAGTATATGGCCATGGAAGATATGA(Absolut 2/ US-11-052-554A-2 Commence 2 Application HS/11/
셤	ii:	; Publication No. US20050288866A
È	TICICGAGGCIAIGGIITGAGIGCAGGAAGIAGAGICCGGIICIAAAAAIAITGG	; APPLICANT: Sachdeva, et al.; TITLE OF INVENTION: COMPUTATI
ය	4192 GinileSerThrAspAsnGlyAlaThrTrp 4201	; TITLE OF INVENTION: PROTEINS ; FILE REFERENCE: 30853/40359A

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JIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE NS OF THERAPEUTIC POTENTIAL
                                                                                           TTCGTATGGATTCGCGAGCTCTCTCAAGTGTTAACGCCTAAT 3549
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ySerLeuGly---AlaGlyLeuAlaSerGlyGluValAlaGln 4298
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AGCGATGCCTTTTTTTTTGAGATCTACATCATTTTTGTTTTTTA 3489
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                                                                                                                                                                                                                                                                                   AGAAGGTTCGATTATCTCAGCTAATGGCGACAATTTAACGATT 3669
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------AspThrValAsnProAlaGlnValLeuThr 4259
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ProfhralathrProfhrIleValSerTyrThrAepAspValG1 4372
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|-----GlyAlaValThrMetValGlyAlaLeuAsnTrpThrTy 4427
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560 ThrAmpSerThrArgLeuAsnAsnGlyGlyValLeuGluValGlnAspGlyGlyGluAla 579
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|SerSerGly8erArgGlnValValGluLy8AgpGlyThrAlaIleGly8erAsnIleSer 472
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     502 ACGITAACTGIATCAITICCCIAIACTGITAIAGGAGAICCGAGIGGGACIACIGIITIT
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Matches:
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 CURRENT APPLICATION NUMBER: US/11/052,554A
CURRENT FILING DATE: 2005-02-07
PRIOR APPLICATION NUMBER: US 60/589,227
PRIOR FILING DATE: 2004-07-20
PRIOR FILING DATE: 2004-07-20
PRIOR PILING DATE: 2004-02-06
NUMBER OF SEQ ID NOS: 763
SEQ ID NO 2
LENGTH: 1571
TYPE: PRT
ORGANISM: Escherichia coli 0157:H7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  853 ACACCGTCTAATGGTACTATT----
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& 43	1120 GGA- 680 GlyL	GGAGTTCAGGATTGCTGCTGTTCAGGATGGGCAGGGA 1155
È	1156 GTGT	GTGTCATCATCTACTTCAACAGAAGATCCAGTAAGTTATTTCCAGAAATACTGCGGTA 1215
qq	700 Vala	
ờ	1216 GAGTTT-	TT 1221
QQ	719 AsnT	::: AsnTyrGlyLysAlaIleAsnThrAspIleValSerGlyLeuGlnGlnIleMetAlaAsn 738
à	1222	GATGGGAACGTAGCCCGAGTAGGAGAGATTTACTCCTACGGAACGTT 1272
DP QC	739 GlyT	GlyThralaGluGlySerIlelleAsnGlyGlySerGlnIleValAsnGluGlyGlyLeu 758
à	1273 GCT-	TICCTGAATAATGGAAAAACCTTGTTTCTCAACAATGTTGCTTCTCCT 1323
Dp	759 AlaG	AlaGluAsnSerValieuAsnAspGlyGlyThrieuAspValArgGluLysGlySerAla 778
à	1324 GTTT	GTTTACATTGCTGCTAAGCAACCAACAAGTGGACAGGCTTCT 1365
qq	779 ThrG	insersergindiyAlaLeuValAlaThrThrArgAlaTh
ò	1366 AATA	AATACGAGTAATAACGGAGATGGAGGAGCTATCTTCTGTAAGAATGGTGCGCAAGCA 1425
qa	797 ArgV	argvalThrGlyThrArgAlaAspGlyValAlaPheSerIleGluGlnGlyAla 814
δ	1426 GGAT	GGATCCAATAACTCTGGATCAGTTTCCTTTGATGGAGGAGGAGTAGTTTTCTTTAGTAGC 1485
QQ	815A	
ò	1486 AATG	AATGTAGCTGGGAAAGGGGGAGCTATTTATGCCAAAAGCTC 1530
qq	831 AspT	iii AspThrSerSerAspLysThrGlnValAsnThrGlyGlyArgGluIleValLysThrLys 850
ò	1531 TCGG	TCGGTTGCTAACTGTGGCCCTGTACAATTTTTAAGGAATATCGCT 1575
Ωp	851 AlaT	::: AlaThrAlaThrGlyThrThrLeuThrGlyGlyGluGlnIleValGluGlyValAlaAsn 870
ò	1576	AATGATGGTGGAGCGATTTATTTAGGAGAATCTGGAGAGCTCAGTTTA 1623
qq	871 Gluī	GluThrThrIleAsnAspGlyGlyIleGlnThrValSerAlaAsnGlyGluAlaIleLys 890
ò	1624 TCTGCT-	CTGATTATGGAGATATTATTTCGATGGGAATCTTAAAGAACA 1671
Ωp	891 Thr	::: ThrThrIleAsnGluGlyGlyThrLeuThrValAsnAspAsnGlyLySAlaThrAspIle 910
ò	1672	1716 1716 III IIII
ф	911 Val	ValGlnAsnSerGlyAlaAlaLeuGlnThrSerThrAlaAsnGly11eGluIleSerGly 930
ò	1717 CAA-	כיז
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ò	1765 AAAC	CTTT
qq	950 Glu	:::
ò	1807 GCM	GCAAACGGAAATAACCAGCCAGCGCAGTCTTCCAAACTTCTAAAAATTAACGATGGTGAA 1866
qq	970 Lys(98
ò	1867 GGA	GGATACACAGGGGATATT 1884

2614 1356 2674 1376 2731 1396 2791 1410 2851	AMONOGEMENT OF THE STATE OF THE	LENGTH: 2340 TYPE: PRT ORGANISM: Rickettsia prowazekii JS-11-052-554A-171 Alignment Scores: 5.54e-10 Lengt Pred. No.: 216.50 Match Percent Similarity: 31.9\$ Conse Percent Similarity: 18.9\$ Misma Query Match: 11.052-554A-17 US-10-701-844-1 (1-4435) x US-11-052-554A-17	Qy 496 GGGAGACGTTAACTGTATCATTTCCC Db 105 GlyGluAspLeuAsnThrAsnPheGlyPro Qy 553 ACTGTTTTTCTGCAGGAGAGTTAACATTA Qy 125 IleIleThrGlyValGlyThrLysThrPhe Qy 607 GCTTTGCCTTTAAGTTGTTTTGGGAACTTA Qy 607 GCTTTGCCTTTAAGTTGTTTTGGGAACTTA Db 145 ThrLeuGlnIleAsnLysAspLeuAsnIle Qy 661 AGAGACACTCGTTGATTTCGAGAACATA Db 165 AsnAsnGlySerIleThrPheGluGlySex
990 GlnTyrThrLeuGlyArgSerLysAspGluPheGlnAlaLeuAlaArgAlaGluAspLeu 1009 1885 GTTTTTGCTAATGGAAGCAGTACTTTGTAC	CTTTCTTCTTGTTAGCAAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAACACACTCCTCAACACACTCTCCAACACTTACTTAGTAGABABABABABABABABABABABABABABABABA	2359 GJAMINIONE ::::::::::::::::::::::::::::::::::::	2488CGAGTAGCTTCTTTGGTTCCA
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) FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE SUTIC POTENTIAL GAATCAGCATATGAAAACCTCATATACATTT 2910 CTTTGGATCATGATGTTTGGTCTAGCATTT 2730 : pgluHisGluSerGlyPheTyrLeuAspGly 1395 AGCTTTATGTGGATCCTATTTGTTCGGAGAT 2850 TGTAGTGTGTCGTTCCAATCATCATGCTTGC 2790 ||| |nvalAlaGlyLys-----1409 TTTAGGTCAGGGATATCGGTATATTAGTGGG 2673 IATTAGGGAGTTTT-----ACTGTTTTAGGG 660 :: leThrThrLyslleAspAsnThrValAlaGly 164 PACGGACTICTACAAATGGGGCAGCTCTAAGT 720 CCTATACTGTTATAGGAGATCCGAGTGGGACT 552 2340 276 191 569 426 63 (71 (1-2340) gth: ches: servative: matches: lels: 441 937 44

2566 AGTGTGGATGG	& 	504 InfalaABparginfrheinfileiyrABnABnLeuABnGinSerGiyABnABpGiulyi 525	q _O
768 PheThrGlyAs	a a	CCTGCTGGGAAAGGGGGAGCTATTTATGCCAAA	∂ 1
2506 CCAAATAGTTT	ò	AsnalaLysileIlePheGluGlyAlaAspSerMetLeuAlaLeuIleAsnThrGlyVal	QO (
753 SerAsnilell	<u>유</u>	1438 TCTGGATCTCTTTGATGGAGGGGAGTAGTTTTCTTTAGTAGCAATGTA 1491	ð í
2446 AAAGCTACATG	ò	AlaAspAsnThrIleTyrThrIleAspAlaLysAsnGlyAsnValAsnLeuLeuAsnAsn	QO .
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2392 AGCTGGAAGCT	8	444 IleasnalaasnLeuThrMetAsnHisProSerAlaGlyAspIleSerAspIleArgIle 463	đ
713 LeuGluLysIle	qa	GGACAGGCTTCTAATACGAGTAATTACGGAGAGGA	à
2335 AATGCCCCATC	ò	IleAsnAlaLysAsnThrIleSerAlaLysLeuLeuAsnAlaThrLysAlaLysIleGln	ପ୍ର
693 ValLeuSerLe	q ₀	CTCAACAATGTTCTTTTCTTTACATTGCTGAAGCAACAAGT	ò
2299 GICCTGAAATT	ŝ	LeuLeuAspThrAspCysValThrPheAsnAsnSerAsnValAsnGlyGlyThrLeuIle	q
687	dg G	ATTACTCCTACGGGAACGTTGCTTTCCTGAATAATGGAAAAACCTTGTTT:::	È
2239 GATTTGGATGA	õ	ValAspAsnLeuValPheAlaAspSerValLeuAspSerGlyThrIleSerValAsnGly	q ₀
677Gly	a a	999	ò
2179 GCAGTCATTGG	ò	AsnileLeuLysPheSerGlyGlyHisGlyLysThrLeuAsnLeuGlnGlyAsnThrLys	ପ୍ର
::: 660 PheAlaSerVal	a		È
2119 TTAGCAAACAA	à	ThrLeuAsnPheLysGlyAsnAlaThrLeuAsnGlyAsn1leAsnAsnLeu 363	qq
653	q	CCAGTAGTAAGTITITCCAGAAATACTGCGGTAGAGTTTGATGGGAACGTAGCCCGAGTA	È
2059 ccrccrccccc	ò	AsnieuAspAsnGluMetIleIleProAlaProGlnLysThrH1sGly	qa
636 IleGlyThrAsr	đ	GGGATTGCTGCTGTTCAGGATGGGCAGCAGGAGTGTCATCATCTTCAACAGAAGAT	È
1999 AGTCTGTATATC	ò	IleGlyAsnIleLysGlyAsnAsnAsnLysAspIleLeuAsnPheLysValH1sGlyThr	q a
625	q ₀	GTAGCGAATGTTGCAGGAGTAAGAGGGGA :::	È
1939 AGGATTGTTCTI	ò	IleAsnLeuLysHisAsnThrSerThrLeuAsnLeuAspAspAsnIleIleVal	đ
 614 SerileThrThr	qa	GGAGCTTGTCAAGTAGTCACCAGTTTCTCTGCTAAGGCTAAGGCTCCTATTGCCTTT ::: ::: :::	È
1879 GATATTGTTTT	8	ThrileAsnValLeuLeuGlySerAlaThrPheAsnSerThrIleLeuLysAlaThrAsn	đ
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1699 GGCGTAACTGTG	8	223 LeuThrLeuCysAapGlyAsnIleThrThrLeuLysGlyAsnIleAsnAsnThrThrGlu 242	q
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	è	204 AlaAsnAsnIleThrIleAsnAlaLysAsnIleAsnLeuThrHisAsnAsnSerIle 222	qu
	ž 2	742TITACTALTIGAGGGTTTTAAGAATTATCCTTTTCCAATTGCAATTGCAATTCATTA 792	ò
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	3 6	721 AATAGGGCTGCTGAGGACTG 741	ò
1531 TCGGTTGCTAAC	<u></u>		

TIGCGIGGGATCCIAAT----ACAGCAAATAATGGTCCTTATACTCTG 2445 GGACTAAAACTGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTT 2505 TATGGGGATCCATTTTAGATATACGATCTGCGCATTCAGCAATTCAAGCA 2565 GGCGCTCTTATTGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTCTTC 2625 AGGCCATCAGATTCTCTTTAATGATCCCATCGAGATGGCAAACGGAAAT 1818 GCAGTCTTCCAAACTTCTAAAAATTAACGATGGTGAAGGATACACAGGG 1878 TTGCTAATGGAAGCAGTACTTTGTACCAAAATGTTACGATAGAGCAAGGA 1938 TCGTGAAAAGGCAAAATTATCAGTGAATTCTCTAAAGTCAGACAGGTGGG 1998 rggaagcrgggagtacatgggattttgtaactccacaaccacacaacag 2058 ATGCAGTTACGAATCCTCCTACCAATCCTCCAGCGCAAGATTCTCATCCT 2178 STAGGACAACTGCTGGTTCTGTTACAATTAGTGGGCCTATCTTTTTGAG 2238 ATACAGCTTATGATAGGTATGATTGGCTAGGTTCTAATCAAAAATCAAT 2298 CAGATTTGACTCTAGGG---AATGAGATGCCTAAGTATGGCTATCAAGGA 2391 AGAATCTGGAGGGCTCAGTTTATCT------GCTGATTATGGA 1638 CGAIGGGAATCTTAAAAGAACAGCCAAAGAGAATGCTGCCGATGTTAAT 1698 GTCCTCACAAGCCATTTCGATGGGATCGGGAAAATAACGACATTA 1758 CTGTGGCCCTGTACAATTTTAAGGAATATCGCTAATGATGGTGGAGCG 1590HisAsnThrLysGly 692 || euGlyThrGlySerAenIleThrGlyGlnIleGlyThrAenSerAlaAla 712 || euThrAspGlnThrSerGluLeuThrLeuAsnAsnAspValValAsn 752 yGlnAspAsnThrHisArgLeuLysGluLeuIleValGluGlyAlaGly 563 ... sndluLeudlyLeuLysLeuValAsnIleGlyAlaAspPro-----|yvalthrLeuThrGlyGluValThrThr--------TA------CAGTTAGGGACTAAGCCCCCAGCT eAspAsp-----

Db 1047 GlyllelleThrLeuAspSerAsnGlyAsnAsnLeuThrll	3682	Db 1067 LysLeuGlySerLysGlyAsnGluLeuSerSerLeuAsnIl		Qy 3784 TTCTCGAAAATGTTTCTTGCGGAGAAAAGGGAATGATCTC :::	3844	DD 1120 ABR	Db 1124 ValAlaGlyGlyAlaThrTyrThrLeuAspAlaIleAe	Qy 3952 CGGAAAGGGTCTATTTTTCTGTAGAGACTAGTTTGGA	Qy 4009 GGGGTCATGTTCGATAATAATGC	1162 nThrAsnAspHisThrIleThrLeuThrSerAlaL	Db 1181 eGlyllelleLysLeulle	Qy 4111 AAGTACGACTTTTACAGTTAAAAACTGTAAAGGGAAAGTTT	1189 pThrAsnLysLeuThrIleAspAshAsnGlyA	Cy 4160GATA (A) A A A B A B A B A B A B A B A B A B A	Qy 4180 AGGCGGGGTTTATAAAGGCATTGTGCTTTTCAAAG		Db 1248 lAsnalaAsnValLeuPheAsnLysAsnThrTyr-		DD 1203 IGTJABILLGABIGLYNIB VALABPRIGGLIGGLYABIR.	1283	Qy 4384 TGAT 4387	Db 1303 eAsn 1304	KESULI 29 US-11-052-554A-283 ; Sequence 283, Application US/11052554A ; Publication No. US20050288866A1	; GENERAL INFORMATION: ; APPLICANT: Sachdeva, et al. ; ITLE OF INVENTION: COMPUTATIONAL METHOD FOR IDENTIF	TITLE OF INVENTION: PROIEINS OF INEKAFEUTIC FILE REFREENCE: 30853/40359A CURRENT APPLICATION NUMBER: US/11/052,554A CURRENT FILING DATE: 2005-02-07
=======================================	788 Valval	::: 		TCCAATCATCATGCTTGC	822 GlyAlaLeeLlysTyrLysAspThrGlyThrIleIleAlaHisGlyGlyLeu 838 2791 ATAGGATCCGTTTATCTATCTACCCAACAAGCTTTATGTGGATCCTATTTGTTCGAGAT 2850	: ::: ::: 	2851 GCGTTTATCCGTGCTACGGGTTTGGGAATCAGCATATGAAAACCTCATATACATT 2910		876 IleGlyAspGlyAsnValThrGlnAsnIleGlyAlaAsp 888 2971 TTACCGATTGTGATTACTCCATCTAAGCTCTATTTGAATGAGTTGCGTCCTTTCGTGCAA 3030		GGGCA	909 ALAABDABDILBPNeVALABDABDILEHIBPNETDTABNGLYGIYILELEUGIN 926 091 TTCAAGAGCGGACATCTCCTAAATCTATCAGTTCCTGTTGGAGTGAAGTTTCATCATCGATGT 3150	sississississississississississississis	TTATGGCGGCTTATATCTGTGATGCTTATCGC	946 GluFheAsnGlyAsnAsnThrTyrAsnLeuAsnAlaIleIleValAsnGlyGlnAsn 964 3211 ACCANCTCTGGTACTGAGACAGCTCCTATCCCATCAAGAGACATGGACAAGAGAGA3270		3271 TITCATITAGCAAGACATGGAGTTGGGGTTAGAGGATCTATGTATGT		/8Asn 1005		1006	:::	TCAAGTGTTAACGCCTAATGTAACCACTCCTTTTAAGGGA 3570 	3571 GACGATGTTTACTTGAATGGAGACTGCGCTTTTGTCAATGTCTATGCAGGAGCTGAAGAA 3630	1037
Ξ	788 ValVal2626 TATCATGACCGCGATGCTTT	L6L	2686 GGAGCAAACTCCTACTTTGC	802 Serdinasneinivalai 2746 AGATCTAAAGATTAT	822 GlyalaLeuLysTyrLysAspThrGlyThr1leIleAla 2791 ATAGGATCCGTTTATCTATCTACCAACAAGCTTTATGTGGA	::: ::: ::: ::: ::: ::: ::: ::: ::::::	2851 GCGTTTATCCGTGCTAGCT; ::: 856 GlyAlaMetlleAspGlySe	2911 GCAGAGGAGAGCGATGTTCC	876 IleGlyAspGlyAsnVal	889 AsnAlaAsnSerIleSerTh	3031 GCTGAGTTTTCTTATGCCGA	909 AlaAsnAspilePheValAspAsnileH 3091 TTCAAGAGGGACATCTCCTAAATCTAT	927 LeuGlyGlyAsnLeuTh	3151 TCTAGTACACATCCTAATAAATATAGCT	946 GluPheAsnGlyAsnAsnThrTyrAsn- 3211 ACCATCTGGTACTGAGACAAGGCTCC	965 GlylleLeuAsnAlaPheTh	3271 TTTCATTTAGCAAGACATGC	3331 AATATAGAAGTATATGGCC	998 ThrileGlnValAsnAsnLysAsn	3391 TTGAGTGCAGGAAGTAGAG	3451 ATGCCTTTTTCTTTGAGAT	1008 LeuValSerSerValAsnSer	3511 TATGGATTCGCGAGCTCTCCTCAGTGT ::	3571 GACGATGTTTACTTGAATCK	1037
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pProGly---AsnAsnGlnPh 1181
:leSerGlyAsnAsnGlyIle 1066
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pAsnGlyAlaIleAlaLeuLy 1228
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sAspileGluLeuAsnGluVa 1248
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                                              AGAGATTTTTCGAGTCTGATG 3783
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|GlnAsnIleHisGlnLeuAsn 1099
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AsnAspAsnPheAspLeuAsn 1142
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GluLeuLysAsn-SerSerAs 1162
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|AlaTyrThrLeuGlyThrAl 1208
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422 ThrValGlySerAspGlyThrTrpGlnValThrLeuProAlaThrGluValGlnAlaLeu 441
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PRIOR APPLICATION NUMBER: US 60/589,227
PRIOR FILING DATE: 2004-07-20
PRIOR PILING DATE: 2004-07-20
PRIOR FILING DATE: 2004-02-06
NUMBER OF SEQ ID NOS: 763
SOFTWARE: Patentin version 3.3
SEQ ID NO 283
LENGTH: 1461
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677 IleaspProLeuThralaaspAsnIleIleasnAlaAlaGluSerGlyGlnAspLeuPro
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È	GTCTGTATATGGAAGCTGGAGTACATGGGATTTTGTA		1083 ValValAsnIleI
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ò		ପ୍	::: 1197 GlyThrThrThr
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È	GCAAGTGTGGATGGGCGCTCTTATTGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTC	qa	1161ValHisAsn
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È	TTCTATCATGACCGCGATGCTTTAGGTCAGGATATCGGTATATTAGTGGGGGGGTTATTCC	qq	1279 AlaSerAspAsn
셤	GluAspGlyAspThrValThrileThr	ò	3658 AATTTAACGATT
È	TTAGGAGCAAACTCCTACTTTGGATCATCGATGTTTTGGTCTAGCATTTTACCGAAGTATTTT 	qa	1299 ThrThrAlaGlu
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हें है	2803 TATCTATCTACCCAACAAGCTTTATGTGGATCCTATTTGTTGGAAAAATGCGTTTATCGT 2802 :::: ::::	qa	1329Trp
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TTAGATATACGATCTGCGCATTCAGCAATTCAAGCA	25
pThrTyrThrLeuAsnAsnSerSerSerSerAlaValGlnAlaLeuMetSerGlyAsn. AgnGranGanGGCGCTCTTATTGTCGAGGATTA	Bp 643. 3G 260.
::: ::	rg 645
GTTTCTGGAGTTTCGAATTTCTTCTATCATGACCGCGATGCTTTAGGTCAGGGAIATCGG 	3G 266
TATATTAGTGGGGGTTATTCCTTAGGAGCAAACTCCTACTTTGGATCATCGATGTTTGGT ::::::	GT 272
CTAGCATTTACCGAAGTATTTGGTAGATCTAAGATTATGTAGTGTGTGGTCGTTCCAATCAT 	AT 278 er 650
CATGCTTGCATAGGATCCGTTTATCTATCTACCCAA	281 8p 652
	TC 285 hr 654
CGTGCTAGCTACGGGTTTGGGAATCAGCATATGAAAACCTCATATACATTTGCAGAGGGG ::: ::: ::::	AG 291 :: sp 656
agcgatgttcgttgggataataactgtctggctggagagattgggggattaccgatt 	TT 297; er 657
GTGATTACTCCATCTAAGCTCTATTTGAATGAGTTGCGTCCTTTCGTGCAAGCTGGTTTT	TT 303 er 659
TCTTATGCCGATCATGAATCTTTACAGAAGGCGAT 	AT 307 8p 661
CAAGCTCGGGCATTCAAGAGCGGACATCTCCTAAATCTATCAGTTCCTGTTGGAGTGAAG ::: :::	AG 313
TTTGATCGATGTTCTAGTACACATCCTAATAATATAGGCTTTTATGGCGGCTTATATCTGT	GT 319 er 663
GATGCTTATACGCATCTCTGGTACTGAGACAACGCTCCTA	TA 324
TCCCATCAAGAGACATGGACAACAGATGCCTTTCATTTAGCAAGACATGGA 	GA 329
GTTGTGGTTAGAGGATCTATGTATGCTTCTCTAACAAGTAATATAGAAGTATAT 	AT 334
GGCCATGGAAGATATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGT	GT 340

Oy 4181 - GGCGGGGTTTATAAAGGCATTGTGCTTTTCAAAGGCAATGTTTTTTAAAGGCATATTCTT 4239	RESULT 31 US-11-052-554A-282 i Sequence 282, Application US/11052554A j Sequence 282, Application US/11052554A j Publication No. US20050288866A1 j GENERAL INFORMATION: TYPLE OF INVERTION: TITLE OF INVERTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-L TITLE OF INVERTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-L TITLE OF INVERTION: PROTEINS OF THERAPEUTIC POTENTIAL CURRENT PILING DATE: 2005-02-07 PRIOR APPLICATION NUMBER: US/11/052,554A CURRENT PILING DATE: 2004-02-06 PRIOR APPLICATION NUMBER: IN 173/DEL/2004 PRIOR APPLICATION NUMBER: IN 173/DEL/2004 NUMBER OF SEQ ID NOS: 763 SOFTWARE: Patentin version 3.3 SOFTWARE: Patentin version 3.3 SEQ ID NO 282 TYPE: PRI CRAHISM: ESCHETION BRAINS COLI 0157:H7	Alignment Scores: 4.35e-09	Qy 496
3406 AGAGTCCGGTTCTAAAATATTGGTTAGATAGTTAAGTGATAGCGATGCCTTTTTCTTTG 346 6712 SerSerGlyAlaTrpSerTyrValLeuAenAsGGILeeuAlaAlaIleGInGlnMetile 673 3466 AGATCTACATCATTTTTTTAGCTTGTTTGTTTCCTATTGGATGGCGAGG 352 6732 AlaGlyGlnThrValLeuGluSerPheThrValSerSerSerAep 674 3526 TCTCCTCAAGTGTTAACGCCTAATGTAACCACTCCTTTTAAGGGAAGACGATGTTTACTTG 358 6747 GlyThrGlnAlaGlnValSerValThrIleThrGlySerGlnAspAenAlaValIle 676 3586 AATGGAGACTGCGTTTTGTCAATGTATGCAGGAGGCTGAAGAAGTTCGAATTATCTCA 3586 AATGGAGACTGCGTTTTGTCAATGTCTATGCAGGAGACGAAGAATATTTTTCTCAATGTATTATCTCA 3586 AATGGAGACTGCGTTTTTGTCAATGTCTATGCAGGAGACTGCAATTATCTCA 364	•		3982 AGTTTGGAGATCTCAGGCGTCAAAAAAGGGGTCATGTTCGATAATAATATGCGGGAATTTC 4041
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셤	yThrAlaThrGlyGlyThrGlyGlyThrGlyGlyGlyAlaAlaThrGLyGlyThrAlaThrC	
è 1	4360 AGGCAATAAAGGTTCTATTGTTTTGATTACAACTTTGCAAAAGGCAGGGGGAGGCGGAGGCGGAGGCGGAGGCGGAGGCGGAGGCGGAGGCGGAGGCGGAGGCGGAGGCGGAGGCGGAGGCGGAGGGGGG	
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, PRI , PRI	PRIOR FILING DATE: 2004-07-20 PRIOR APPLICATION NUMBER: 1N 173/DEL/2004 DETOE FILING DATE: 2004-02-06	
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; TY ; OR US-11-	. 11/E: kH.; ; ORGNISM: Bscherichia coli 0157:H7 US-11-052-554A-282	
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US-10-)-701-844-1 (1-4435) x US-11-052-554A-282 (1-1345)	
ò	451 GGGGGATATGCAGCAGAAATCATGGTTCCTCAAGGAATTTACGAT 495	
q	2 GlyvalHisThrAlaGluAlaThrLeuProAsnGlyAsnAsnAspThrLysIleValAsn 21	
È	496	
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qq	42 ThrAsnAsnSerAspSerValGlnLeuThrAlaThrValLysAspProSerAsnHisPro 61	
È	547GGGACTACTGTTTTTTCT	
q	62 ValAladiyilerhrValAsnPheThrMetProGlnAspValAlaAlaAsnPheThrLeu 81	
ò	583 AAAAATCTTGACAATTCTATTGCGCTTTGCCTTTAAGTTGT 624	
qa	82 GluAsnAsnGlyileAlalleThrGlnAlaAsnGlyGluAlaHisValThrLeu 99	

8 8	664GGACACTCGTTGACTTTCGAGAACATACGGACTTCTACA 702 :::	qa	:::::: ::: 436 ThrTyrValProAsnValAlaAsn
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දු	:::	දු දි	466 ThrAlaThrValAlaAspThrGluGlyAsnAlaIleAl 1726TCGATGGGATC
දු පු	793 CTTGCCGTACTGCCTGCTGCAACGACTAATAAG	3 A	LeuProGluAspValArgAlaAsnP
हे <i>व</i>	826	∂ 8	1759 AGAGCTAAAGCAGGCATCAGATTCTCTTTAATGATCC
6 8		& A	1819 AACCAGCCAGCGCAGTCTTCCAAACTTCTAAAAATTAA ::: 505 A@pThrGluGlyLysAlaLysValThrLeuLysGlyTt
ብ 	219 SerAspasnLysThrValHisPheile	È	
q		음 &	525 ThralaSerMetalaGlyGlyLysSer
& A	991 AAGCTTTGTGTCTTCCAAGAAAATACTGCTCAAGCTGATGGGGGAGCTTGTCAAGTAGTC 1050 11:	3 A	
ò		<i>≿</i> 8	1999 AGTCTGTATATGGAAGCTGGGAGTACATGGGATTTTGT
අ	ThralathrvalvalaspasnasnashGlyPheProvalLysGlyValThrvalasnPheThr	ð	2059 CCTCCTGCCGCTAATCAGTTGATCACGCTTTCCAATCT
දි සි	1096GCGAATGTTGCAGGAGTAAGAGGGGAGGGATTGCTGTTCAGGATGGGCAG 1149 	qq	
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È	1270 GTTGCTTTCCTGAATAATGGAAAAACCTTGTTTCTCAACAATGTT 1314	Š 8	2215 ATTAGTGGCCTATCTTTTTGAGGATTTGGATGATA
ብ <i>ት</i>	322AlaSerLeuGluAanGlySerSerThrLeuSerThrSerIleAsnValAsnAlaAsp 340 1315 GCTTCTCCTGTTTACATTGCTGCTAAGCAACCAACAAGTGGACAG 1359	ò	2275 CTAGGTTCTAATCAAAAATCAATGTCCTGAAATTAC
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ð i	1360 GCTTCTAATACGAGTAATAATTACGGAGATGGAGA 1395	≩ 8	2355 ARTOCCCCATCARTTGACTAGGGAATGAAATGCCATCAGGAAATGACTGCCATCAGGAAATGAAATGAAAATGAAAAAAAA
සි දි	361 ThrThrAsnLeuTyrIleGluValLysAspAsnTyrGlyAsnGlyValProGlnGlnGlnGlu 380 1396GCTATCTTCTGTAAGAATGGTGCGCAAGCAGGATCCAATAACTCTGGATCA 1446	ò	GTGGGATCC
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음 &	417 GlyValTyrGlnValThrAlaThrLeuGluAsnGlyAspSerMetGlnGlnThrVal 435 1558TTTTTAAGGAATATCGCTAATGATGGTGGAGCGATTTATTT	ð	2545 GCGCATTCAGCAATTCAAGCAAGTGTGGATGGGCGCT(::: ::: :::: ::: ::
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TCGGGAGGAAATAACGACHTA 1758 ||||||||||||::: ||| AppGlyGlyLy8ValValThr--- 504 AACGATGGTGAAGGATACACAGGG 1878 CAAAATGTTACGATAGAGCAAGGA 1938 AATTCTCTAAGTCAGACAGGTGGG 1998 GCAGTTACGAATCCTCCTACCAAT 2154 AGCACAACTGCTGGTTCTGTTACA 2214
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-----AlaValThr 586 SCTAAGTATGGCTATCAAGGAAGC 2394 -----TATAATCCTGGGCCT 2484 GGATCCATTTTAGATATACGATCT 2544 TCTTATTGTCGAGGATTATGGGTT 2604 SATGGGAATCTTAAAAGAACAGCC 1674 TCCTCACAAGCCATT----- 1725 CCCATCGAGATGGCAAACGGAAAT 1818 GTAACTCCACACCACCACAGAG 2058 CTGCATTTGTCTTTCTTTTG 2118 ACAGCTTATGATAGGTATGATTGG 2274 CAGTTAGGGACTAAGCCCCCAGCT 2334 GGTCCTTATACTCTGAAAGCTACA 2454 ::: ||| AsnAsnAsnAspLeuThrThrLeu 465 ||| GlyLysAlaGluValThrLeuSer 618 ValAsnAsnTyrGlyValSerAsp 638 ::: ||| |AlaLysLeuAlaSerLeuThrSer 658 ::::::
AlaAsnSerGluValThrPheThr 485 :::||| ThrLysAlaGlyAlaHisThrVal 524 |||:::::::::: LeuAsnValThrGluAspAsnPhe 558 504 533 588

ą	659 ValTyrSerPheValValSerThrThrGluGlyAlaThrMetThrAlaSerVal 676	ě	
ટે	2605 TCTGGAGTTTCGAATTTCTTCTATCATGACCGGATGCTTTAGGTCAGGGA 2655	Ši i	
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È	AGGAGCA	S	3330 ACICC
셤	::: 687 IleLygValAgnPheArgGlyThrSerValThrLeuSerSerThrSerValGluThrAgp 706	8 8	
È	2698 2730	∂ 6	
q	 707 AspArgGlyPhcAlaGluIleLeuValThrScrThrGluValGlyLeuLysThrValSer 726	3 8	
ò	2731ACCGAAGTATTTGGTAGATCTAAAGATTATGTAGTGT 2769	: A	1059 LysGl
අු	727 AlaSerLeuAlaAspLysProThrGluValIleSerArg739	ò	3712 CCA
È	2770 CGITCCAATCATCATGCTTGCATAGGATCCGTTTATCTATCTA	- අ	 1079 ProIl
ąg	740 LeuLeuAsnAlaLysAlaAspileAsnSerAlaThrileThrSerLeuGluIleProGlu 759	Š	3766 GATTT
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È	2995 AAGCTCTATTTGAATGAGTTGCGTCCTTTCGTGCAAGCTGAGTTTTCTTATGCCGATCAT 3054	qq	1145 PheTh
ନ୍ଧ		à	4006 AAAGG
ò		අ	1164 LeuPr
අ	GluLysAspLeuValValIleAspGlnLysLeuThrLeuSe	ò	4066 AATAA
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qa	relyel	; Publ	Publication No. GENERAL INFORMAT
ò	TAGCAA	; APP	APPLICANT: Sache TITLE OF INVENT
q	914 AsnLysValGlyThrTyrThrValThrAlaSerPheHisAsnGlyValThr 930	; FIL	LE OF INVENT
ò	3298 GITAGAGGATCTATGTATGCTTCTAACAAGTAATATAGAAGTATATGGCCATGGAAGA 3357	# B B	CURRENT APPLICATIONS 1
ପ୍ଧ	::::: 931 IleGlnThrGlnThrIleValLy8ValThrGlyAenSerSerThrAlaHi8ValAla 949	PRI	OR APPLICATION OR FILING DA
È	3358 TATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGT 3396		PRIOR APPLICATION PRIOR FILING DAY
ପ୍ର	950 SerPhelleAlaAspProSerThrIleAlaAlaThrAsnSerAspLeuSerThrLeuLys 969		NUMBER OF SEQ II SOFTWARE: Pateni
È	3397 GCAGGAAGTAGAGTCCGGTTCTAAAATATTGGTTAGATAGTTAAGTGTTAGCGATGCCT 3456	OSS :	EQ ID NO 280 LENGTH: 1588
q	970 Ala-ThrValdluAspolySerGlyAshLeuIleGluGlyLeuThrValTyr 986	<u></u>	TYPE: PRT ORGANISM: Esch
È	TTTTGTTTTT	US-11-	
ପ୍ର	987 PhealaLeuLysSerGlySerAlaThrLeuThrSerLeuThrAlaVal 1002	Alignment	ment Scores:

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Addeva, et al.

TOTAL COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE
WITON: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE
WITON: PROTEINS OF THERAPEUTIC POTENTIAL
WITON NUMBER: US/11/052,554A
S. DATE: 2006-02-07
DATE: 2004-07-20
DATE: 2004-07-20
DATE: 2004-02-06
DATE: 2004-02-06
DATE: 2004-02-06
DATE: 2004-03-3
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|alSeralaileasptyrSerLysaanPheSerGlyGlufyrLysAlaThrvalThr 1118
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|alalaGlyProAlaAspAlaSerGlnSerValLeuLysAsnAsnArgSerSerLeu 1058
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|YAspPhcThrAspSerAlaGluLeuHisLeuValLeuHisAspIleSerGlyAsn 1078
                                                                                                                                                                                                                                                                                                                                                                                                          CTTTTAAGGGAGACGATGTTTACTTGAATGGAGACTGCGCTTTTGTCAATGTC--- 3612
                                                                                                                                                                                    ATGCAGGAGCTGAAGAAGGT-----TCGATTATCTCAGCTAATGGCGACAATTTA 3663
                                                                                                                                                                                                                                                                                 -----ACGATTACCGGACAAACCATACATTATCATTACAGATTCTCAAGGG 3711
----TATGGATTCGCGAGCTCTCCT-----CAAGTGTTAACGCCTAATGTAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTTAAAAACTGTAAAGGGAAAGTTTCTTTCACAGATAACGTAGCCTCT 4174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           pplication US/11052554A
US20050288866A1
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1396 GCTATCTTCTGTAAGAATGGTGCGCAAGCA	DD 308 AlaberAsnalaintUlyAspLy8berLeuAlaLeuGLyberAsnberberAlaAsnCly 327 Qy 1441GGATCAGTTTCCTTTGATGGAGGAGTAGTTTTTTTAGTAGCAATGTAGCTGCT 1497 Cy 1441GGATCAGTTTCCTTTGATGGAGGAGTAGTTTTTTTTAGTAGCAATGTAGCTGCT 1497 DD 328 IleAsnSerValAlaLeuGlyAlaAspSerIleAlaAspLeuAspAsnThrVal8erVal 347	1498 GGG	1516	1543TGTGGCCCTGTACAATTT	1561 TTAAGGATATCGCTAATGATGGAGCGGATTTATTAGGAGAATCTGGAGAG ::: ::: ::: :::	Qy 1615 CTC 1617 Db 428 LeuGlnTrpAspGlnThrLysGlyLysTyrSerAlaAlaHisGlyThrSerSerProThr 447	Qy 1618	GCCGATGTTAATGGCGTAACT ::: aAsnThrAlaAsnIleAla	Qy 1708 GTGTCCTCACAAGCCATTTCGATGGGATCGGGAGGGAAAATA 1749 	Oy 1750 ACGACATTAAGAGCTAAAGCAGGGCATCAGATTCTCTTAATGATCCC 1797	Qy 1798 ATCGAGATGGCAAACGGAAATAACCAGCCAGCGCAGTCTTCCAAACTTAAA 1857 ::: :::	Qy 1858 GATGGTGAA	Qy 1876 GGGGATATTGTTTTTGCTAATGGAAGCAGTACTTGTACCAA 1917	OY 1918 AATGTTACGATAGGGAAGGATGTTCTTCGTGAAAAGGCAAAATTATCAGTGAAT 1977	Oy 1978 TCTCTAAGTCAGACAGGTGGGAGTCTGTATATGGAAGCT	Qy 2016
Pred. No.: 4.69e-09 Length: 1588 Score: 205.00 Matches: 293 Percent Similarity: 30.9% Conservative: 203 Best Local Similarity: 18.3% Mismatches: 577 Ourry Match: 2.6% Indels: 531 DB: 11 Gaps: 69	US-10-701-844-1 (1-4435) x US-11-052-554A-280 (1-1588) Qy 523 TATACTGTTATAGGAGATCCGAGTGGACTACTGTTTTTCTGCAGGAGATTAACATTA 582		643 AGTTTTACTGTTTTAGGGAGAGACACTCGTTGACTTTCGAGAACATACGGACTTCTACA 702	GTAATAGCGCTGCTGATGGACTGTTTACTATT	751 GAGGGTTTTAAAGAATTATCCTTTTCCAATTGCAATTCATTACTTGCCGTACTGCCTGC	811 GCAACGACTAATAAGGGTAGCCAGACTCCGACGACAACATCTACACCGTCTAATGGT 867	ACTATTATTCTAAAACAGATCTTTGTTACTCATAATGAGAAGTTCTCAACTATTATTCTAAAACAGATCTTTGTTACTCATAATGAGAAGTTCTCA :	TTCTATAGTAATTTAGTCTGGAGATGGGGGGAGCTATAGATGCTAAGAGCTTA TTCTATAGTAATTTAGTCTGGAGATGGGGGGAGCTATAGATGCTAAGAGCTTA THE STATE ST	973 ACGGTTCAAGGAATTAGCAAGCTTTGT 999 :::::::: 144 AsstranglyGlyGlyThysaxMaralalanGlyAryThysaxInlandGlyNysTanSar 163	GTCTTCCAAGAAATACTGCTCAAGCTGATGGGGGGGGCTTGTCAAGTAGTCACCTGTTTC ::::::::::::::::::::::: : :::::::	TCTGCTATGGCTAACGAGGCTCCTATTGCCTTTGTAGCGAATGTTGCAGGAGTAAGA !::		TCATCATCTACTTCAACAAGAACCAGTAGTAAGTTTTTCCAGAATACTGCGGTAGAG ::: Class	TTTGATGGGAACGTAGCCCGAGTAGGAGGGATTTACTCCTACGGGAACGTTGCTTC	CTTCTCCTGTTTACATTGCTGCT	1339 AAGCAACCAACAAGTGGACAGCTTCTAATACGAGTAATAATTACGGAGATGGAGGA 1395

ą	634 GlyagLeuThrThrGlySerThrAspAlaValAsnGlySerGlnLeu 649	096	960 GlutyrAsnAsnValGlyAspAlaLeuAspAlaLeuAspAspA.
ò	2062 CCTGCCGCTAATCAGTTGATCACGCTTTCCAATCTGCATTTGTCTTTTTTTT	2938	AATAACTGTCTGGCTGGAGAGATTGGAGCGGGATTACCGATTG
qq	::: ::::: ::::::::::::::::::::::::	DD 980 GIUINIKALAABIGIYGIY	GLUINIKALAABNGIYGIY
È	2122 GCAAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGCGCAAGATTCT 2172	985	
q	670 IleSerAsnLeuThrGluThrValThrAsnLeuGlyGluAspAlaLeuLysTrpAspLys 689		3058 TCTTTTACAGAGGAAGGCGATCAAGCTCGGGCATTCAAGAGCG
ò	CATCCTGCAGTCATTGGTAGCACAACTGCTGGTTCTGTT	986 qq	:: :: AlaGlyAlaTyrAsnAlaS
음 &	690 AspAsnGlyValPheThrAlaAlaHisGlyAsnAsnThrAlaSerLysIleThrAsnIle 709	Qy 3118 TCAGTTCCTG	tcagticcigitggagigaagitigaicgaigitciagiacac ::: :::
3 8	LeuaspGlyThrValThrAlaThrSerSerAspAlaIleAsnGlySerGlnLeuTyrAsp	866	SerileileThrAsnValAlaAsnGlySerileSerGlu
È	2251 ACAGCTTATGATAGGTATGATTGGCTACGTTCTAATCAAAATCAATGTCCTGAAATTA 2310	2y 3178 TTTATGGCGG	TTTATGGGGGGTTATATCTGTGATGCTTATCGCACCATCTCG ARDSGTTATATGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGT
셤	::: ::: ::: :::	3229	ACAACGCTCCTATCCCATCAAGAGACA
È	2311 CAGTTAGGGACTAAGCCCCCAGGTAATGCCCCATCAGATTTGACTCTAGGGAATGAGATG 2370		:::::: 1024 ThrAsnMetMetIleGluGlnAsnThrGlnIleIleAsnGlnL
요 8	750 PheThrGlyProThrTyrLysIleGlyGluThrAsnTyrTyrAsnValGlyAspAlaLeu 769 2371 CCTBACTBACGCTBACGBAGCTTGGBAGCTTGGGTGGGAATCCTAAT 2418	Qy 3268 GCCTTTCATT	GCCTTTCATTTAGCAAGACATGGAGTTGTGGTTAGA
경 음	 spalaLeuLeuTrpasp	1044	AlaThrTyr1leGlnGluAsnGlyAlaGly1leAsnTyrValA
ò	2419 ACAGCAAATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAAACTGGGTATAATCCT 2478	Oy 3304	
ପ୍ପ		3322	CTAACAAGTAATATAGAAGTATATGGCCCATGGAAGATATGAGT
ò	2479 GGCCTGAGCGAGTAGCTTCTTTGGTTCAAATAGTTTATGGGGATCCATTTTAGATATA 2538	1084	: : : valAlaLy8GlyAspSerSerValAlaIleGlyGlnGlySerT
셤		Qy 3382 GGCTATGGTT	GGCTATGGTTTGAGTGCAGGAAGTAGAGTCCGGTTCTAAAAAT
<i>ह</i> े ∶		 Db 1104 GlyIleAlaL	
8 8	817SerSerSerAspAlaVal	Qy 3442 GTGTTAGCGA	GIGITAGCGATGCCTTTTCTTTGAGATCTACATCATTTTGTT :::
3 8		1116	LysGlySerArgAspThrSerIleThrG
ð	2659 CGGTATATTAGTGGGGGTTATTCCTTAGGAGCAAACTCCTAC 2700		TCCTATTCGTATGGATTCGCGAGCTCTCCTCAAGTGTTAACGC
qq	 843 GluValAmmAlaAmpGlyThrIleThrAlaProThrTyrThrIleAlaAmmAlaAmpTyr 862	3562	GGAGACGATGTTTACT
È		1140	GlyGluLeuLeuGlyAlaLeuSerIleGlyAspAspGlyLysT
qa ,	AspAsnValGlyAspAlaLeuAsnAlaIleAspThrThrLeuAspAspAlaLeuLrp	Qy 3601 TTTGTCAATG	TTTGTCAATGTCTATGCAGGAGCTGAAGAAGGTTCGATTATCT
රි සි	2725	Db 1157 IleIleAsnV	::: IlelleAsnValAlaAspGlySerGluAla
8 8		3661	TTAACGATTACCGGACAAAACCATACATTATCATTTACAGATT
q	 903 SerVallleThrAsnValAlaAsnGlyAlaileSerAlaAlaSerSerAsp 919	Db 1170 ValThrValA	ValthrValArgGinLeuGinABnAlaileGiyAlaVal CaaaaamanGCTTCATTTCAGCAGGAGAGAGACACTTACTGG
हें ह	2821 GCTTTATGTGGATCCTATTTGTTC	1189	TyrPheHisAlaAsnSerThrGluGluAspSerLeuAlaValC
ĝ (TYIINITHENDYSIYIITEATAABBALADEUGIYGIY	Qy 3781 ATGTTCTCGA	3781 AIGTICICGAAAAIGTITCTIGCGGAGAAAAGGGAAIGAICI
දු දු	2848 GATGCGTTTATCCGTGCT		LysThrileValAsnGlyAspLysGlyIleGly
ò	2884CAGCATATGAAAACTCATATACATTTGCAGAGGGGGGGGG	Qy 3841 ATTTCC :: Db 1229 Valaspalar	ATTTCC
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ylleglytyrglyAlatyr 1228 nAlaGlnVallleHisVal 1248 |||||| | nLeuAlaGlyAsnThrAsp G-----TATGCTTCT 3321 ||| ||| rAlalleGlyTyrAsnSer 1083 STATCGAGATGCTTCTCGA 3381 ||| rTyrSerAspValAspThr 1103 ATATTGGTTAGATAGTTAA 3441 ::: ||| -----ValSerSerArg 1115 FITTITAGCTTGTTTGTGT 3501 rGluAsnGlyValValIle 1133 SCCTAATGTAACCACTCCT 3561 |||||| -----ThrThrAsp 1139 CTTGAATGGAGACTGCGCT 3600 sTyrArg-----Gln 1156 CTCAGCTAATGGCGACAAT 3660 ------HisAspAla 1169 TTCTCAAGGGCCAGTTCTT 3720 ::: -AlaThrThrProThrLys 1188 SAGAGATTTTCGAGTCTG 3780 iglyThrAspSerLeuAla 1208 CTCCGGGAAAACCGTGAGT 3840 CGAAGTGATTTTCTGGGAT 3873 GGTACTGAG---- 3228 LArgThrAsnAspAspGly 1063 GTGATTACTCCATCTAAG 2997 TCTTATGCCGATCATGAA 3057 ACATCCTAATAAATATAGC 3177 :|||:::::: nGlySerGlnLeuAsnAla 1023 -----TGGACAACAGAT 3267 GGACATCTCCTAAATCTA 3117 GluTyrAsnAsnValGlyAspAlaLeuAspAlaLeuAspAspAsnAlaLeuLeuTrpAsp 979 SerHisAspGlyLysAla 997

Qy 469 ATCATGGTTCCTCAAGGAATTTACGATGGGGAGACGTTAACTGTATCA 516 b ::::: :::	559	Oy 619 AGTIGITITIGGGAACTTATTAGGGAGTTTTACTGTTTTAGGGAGACACTCGTTGACT 678	Qy 679 TTCGAGAACATACGGACTTCTACAAATGGGCCAGCTCTAAGTAATAGCGCTGCT 732	Qy 733 GATGGACTGTTTACTATTGAGGGTTTTAAAGAATTATCCTTTTCCAATTGCAATTCATTA 792 ::: ::	Qy 793 CTTGCCGTACTGCTGCTGCTACTAATAAGGGTAGCCAGACTCCGACGACAACA 849	Qy 850 TCTACACCGTCTAATGGTACTATTTATTCTAAAACAGATCTTTTGTTACTCAATAATGAG 909	Qy 910 AAGTTCTCATTCTATAGTAATTTAGTCTCTGGAGATGGGGGAGCTATAGATGCTAAGAGC 969	Qy 970 TTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAAATACTGCTCAAGGT 1026	Qy 1027 GATGGGGGAGCTTGTCAAGTCACCAGTTTCTCTGCTATGGCTAACGAGGCTCCTATT 1086 :::	Qy 1087 GCCTTTGTAGCGAATGTTGCAGGAGTAAGAGGGGAGGGATTGCTGCTGTTCAGGATGGG 1146 Db 1810 1810	Qy 1147 CAGCAGGGAGTGTCATCATCTACAGAAGATCCAGTAGTAAGTTTTTCCAGAAAT 1206	Qy 1207 ACTGCGGTAGAGTTTGATGGGAACGTAGCCCGAGTAGGAGGAGGATTTACTCCTACGGG 1266 ::: ::	OY 1267 AACGTTGCTTGAATAATGGAAAACCTTGTTTCTCAACAATGTTGCTTCTCTGTT 1326	OY 1327 TACATTGCTGCTAAGCAACCAAGAGGGACAGGCTTCTAATACGAGTAATAAGGA 1386	1387 GATGGAGGAGCTATCTTCTGTAAGAATGGTGGCAAGCAGGATCCAATAACTCTGGATCA	Oy 1447 GTTTCCTTTGATGGAGGAGTAGTTTTCTTTAGTAGCAATGTAGCTGCTGGGAAAGGG 1506 ::: :::
dy 3874 AACTCCGTGGGGTATTCTCCTTTATCTACTGTGCCAACCTCATCATCAGCTCGCTGCT 3933 :: ::	3979 ACTAGTTTGGAGATCTCAGGCGTCAAAAAGGGGTCATGTTCGATAATAATGCCGGGAAT ::: :::	OY 4039 TTCGGAACAGTTTTTCGAGGTAAGAATAATAATAATGCTGGTGGTGGAGGCAGTGGGTTC 4098	Qy 4099 CGCTACACCATCAAGTACGACTTTTACAGTTAAAAACTGTAAAGGGAAAGTTTCTTTC	Qy 4159 AGATAACGTAGCCTCTTGCGGAGGGGAGGCGTTATAAAGGCATTGT 4206	Qy 4207 GCTTTTCAAAGACAATGAAGGAGCATATTCTTCCGAGGGAACACAGCATACGATGA 4263	Qy 4264 TTTAAGGATTCTTGCTGCTACTAATCAGGATACGGAGACAGGAGGCGGTGGAGG 4323	Qy 4324 AGTTATTTGCTCTCCAGATGATTCTGTAAAGTTTGAAGGCAATAAAGGTTCTATTGTTTT 4383	Gy 4384 TGATTACAAC 4393 Db 1398 rGluGluAsn 1401	RESULT 33 US-11-052-554A-92 , Sequence 92, Application US/11052554A	 Publication No. US2005028866A1 GENERAL INFORMATION: APPLICANT Sachdeva, et al. TITLE OF INVENTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE 	; TITLE OF INVENTION: PROTEINS OF THERAPBUTIC POTENTIAL ; FILE REPERENCE: 30853/40359A ; CURRENT APPLICATION NUMBER: US/11/052,554A ; CURRENT FILING DATE: 2005-02-07	; PRIOR APPLICATION NUMBER: US 60/589,227 ; PRIOR FILING DATE: 2004-07-20 ; PRIOR APPLICATION NUMBER: IN 173/DEL/2004 ; PRIOR PILING DATE: 2004-02-06	NUMBER OF SEQ ID NOS: 763 ; SOFTWARE: Patentin version 3.3 ; SEQ ID NO 92 ; LENGTH: 2399	<pre>// TYPE: PRT // ORGANISM: Helicobacter pylori J99 U8-11-052-554A-92</pre>	Alignment Scores: 8.46e-09 Length: 2399 Score: 203.00 Matches: 218 Percent Similarity: 29.9% Conservative: 139	Mismatches: Indels: Gaps: -052-554A-92 (1-2399)

27 GCT	425 ThrThrIleAsnAspAlaThrIleGinAlaGlySerSerValTyrSerSerThrLy8Gly 1015 ACTGCTCAAGCTGATGGCGAGCTTGTCAAGTAGCTACCCTATGCTAAC 1105 ACTGCTCAAGCTGTGAAGTAGTAGTAGCAGTTTCTCTGCTATGCTAAC 1075 GAGGCTCCTATGCCTTTGTAGCGAATGTTGCAGGAGTAAGAGGGATTGCTGCT 1135 GTTCAGGATGGCAGC	1351 AGTGGACAGGCTTCTAATACGGAGATGAGGAGCTATCTTCTGTAAG 1410 1351 AGTGGACAGGCTTCTAATACGGAGATGAGGAGGAGCTATCTTCTGTAAG 1410 1351 AGTGGACAGGCTTCTAATACGGAGATAGGAGGAGCTATCTTCTGTAAG 1410 1351 AGTGGACAGGCTTCTAATACGAGAATAGAGCAATACTCTCTGTAAG 1443 1411 AATGGTGCGCAAGCAGGA
Db 2290 AlaAspProAsnLysLysGerValLeuThrIleAsnPheAlaLeuGluSerArgHis 2308 3574 GATGTTTACTTGAATGGAGACTGCTTTTGTCAATGTCTATGCAGGGCTGAAGGT 3633	REBULT 34 UB-11-052-554A-374	Alignment Scores: 8.64e-09

	679 ThrasnileThrSerSerSerGlvAspileThrLeuValAlaGlvAsnGlvIleGInLeu 698
-	2 GGATCGGGAGGGAAAATAACGACATTAAGAGCTAAAGCA 1770
	 GlyAspGlyLysGlnArgAsnSerIleAs
1	1 GGGCATCAGAITCTCTTTAATGATCCCATCGAGATGGCAAACGGA
	GIYABDALAABÇLEWLIYBABDLEWABDYALTALYBYEYETIYALALEWABDILLERLE
Qy 1816 Db 739	6
Qy 1840	
Db 759	9 AgnAlaGlnHisGluArgValThrLeuAgnGlnValAspAlaTyrAlaHisArgHisLeu 778
Qy 1873	3ACAGGGGATATTGTTTTTTTT
Db 779	SerlleThrGlySerGln
Qy 1891	GCTAAIGGAAGCAGTACTTTGTACCAAAATGTTAGGATA
799 da	9 AlaAsnGlyValLeuAlaLeuAsnAlaArgTyrSerGlnIleAlaAspAsnThrThrLeu 818
Oy 193	1930 GAGCAAGGATTGTTCTTCGTGAAAAGGCAAAATTATCAGTGAAT 1977
Db 819	9 ArgAlaGiyAlaileAsnLeuThrAlaGlyThrAlaLeuValLysArgGlyAsnIleAsn 838
Oy 1978	
Db 839	9 TrpSerThrValSerThrLysThrLeuGluAspAsnAlaGluLeuLysProLeuAlaGly 858
Oy 1999	9 AGTCTGTATATGGAAGCTGGGAGTACATGGGATTTTGTAACTCCACACACCACACAG 2058
Db 859	9 ArgLeuAsnileGluAlaGlySerGlyThrLeuThrileGluPro 873
Qy 2059	9 CCTCCTGCCGCTAATCAGTTGATCACGCTTTCCAATCTGCATTTGTCTTTGTTTTG 2118
Db 874	
Qy 2119	
Db 891	
Qy 2176	
Db 911	.1 GlualaLyBGlyABnIleArgLeuValThrGlyGluThrABpLeuArgGlySerLyBIle 930
Oy 2197	ACTGCTGGTTCTGTTACAATTAGTGGGCCTATCTTTTTGAGGATTTG
Db 931	
Qy 2245	
26 qa	951 AsnAsnSerPheSerAsnTyrPheProThrGlnLysAlaAlaGluLeuAsnGlnLysSer 970
Qy 2296	
Db da	971 LysGluLeuGluGlnGlnIleAlaGlnLeuLysLysSerSerProLysSerLysLeuIle 990
Qy 2353	53ACTCTAGGGAATGACGTGCCTAAGTATGGCTATCAAGGAAGCTGGAAGCTTGCGTGG 2409
66 qa	991 ProThrLeuGlnGluArgAspArgLeuAlaPhe
Qy 2410	10 GATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAAACTGGG 2469
Db 1003)3yrrlleGinAlaileAsnLysGluValLysGly

2470	TATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGTTTATGGGGATCC 2526
2527	ATTTAGATATACGATCTGCGCATTCAGCAATTCAAGCAAGT 2568 ::: :::
2569	GTGGATGGCCCTCTTATTGTCGAGGA
2596	
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ın	AGTACACATCCTAATAAATATAGCTTTATGGCGGCTTATATCTGTGATGCTTATCGCACC 321
1254 3214	
ř.	ArgSerGlyTrpAspThrValLeuGluGlyThrGluPheLysThrThrLeuAlaGlyAla 129
3250)
3289	GGAGTTGTGGT ::: Glyllevalab
	CATGGAAGATATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGTAGA 3408

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Percent Similarity:
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1560 GluValAlaSerLysIleLysPheAsnLeuSerGluAspTyrIleThrHisLysIleAla 1579
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1415 GlyLeuThrGluAlaGlyAlaAlaIleIleAlaLeuAlaValThrValValThrSerGly 1434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTGAAGAAGGTTCGATTATCTCAGCTAATGGCGACAATTTAACGATTACC----- 3672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ------GGACAAAACCATACATTTTACAGATTCTCAAGGGCCAGTT--- 3717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----CTTCAAAATTATGCCTTCAGCA 3744
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-------IleProLyaGlyAsnLeuLysThrGluIleGluLysLeuSerLys 1381
                                                                                                                                                                                                                                                                                                                                                                                           3496 ITGTGTTCCTATTCGTATGGATTCGCGAGCTCTCCTCAAGTGTTAACGCCTAATGTAACC 3555
                                                                                                                                                                                                                                                                                               3865 ITCTGGGATAACTCCGTGGGGTATTCTCCTTTATCTACTGTGCCAACCTCATCATCAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1531 LeulleAsnThrAlalleAsnGlyGlySerLeuLys-------------
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                                                                                                      ||| :::|| || ProSerPheGluSerPtoThrProProLysLeuSerAlaProGlyGlyTyrIleValAsp
                                                                         ------TATTGGTTAGAT
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                                                                           3409 GTCCGGTTCTAAAAA-----
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ThrTyrLeuSerIleGluThrThrGluLysGlyAlaAlaGlyThrPheIleSerAsnGly 359
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GlyThrLeu-------GluAlaAlaLysGlnLeuIleValThrSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            448 GGGGGGGGATATGCAGCAGAAATCATGGTTCCTCAAGGAATTTACGATGGGGAGACGTTA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       284 GlyGlyMetTyrAlaAspSerile------
                                                                                                                                                                                                               COUNTY: Distriction

ZIP: TW 89 EP

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC COMPALIBLE

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Petentin Release #1.0, Version #1.30 (OEB)

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/11/045,208

FILING DATE: 21-APR-1999

ATTORNEY/AGRET INFORMATION:

NAME: SMITHKLINE BEECHAM

INFORMATION FOR SEQ ID NO: 38:

SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1981
306
200
591
461
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Matches:
Conservative:
Mismatches:
Indels:
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Sequence 38, Application US/11045208
Publication No. US20060063167A1
GENERAL INFORMATION:
APPLICANT: (A) NAME : I.N.S.E.R.M
TITLE OF INVENTION: Of the Neisseria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; LOCATION: 1..1981
; SEQUENCE DESCRIPTION: SEQ ID NO: 38:
US-11-045-208-38
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                                                                                                                                                       NUMBER OF SEQUENCES: 99
STREET: New Horizons Court
CITY: Brentford
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STRANDEDNESS: single
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199.00
32.5%
19.6%
2.5%
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10	G99 GlyAspGlyLysGlnArgAsnSerIleAsnGlyLysHisIleSerIleLysAsnAsnGly 718 1771 GGGCATCAGATTCTCTTAATGATCCCATCGAGATGGCAAACGGA			2353ACTCTAGGGAATGAGATGCCTAAGGCTATCAAGGAAGCTGGAAGCTTGCGTGG 2409
CCGCCCCACACA. CCGCCCCACACA. CCGCCCCACACA. CCGCCCCACACA. CCGCCCACACA. CCGCCCCACACACA. TTACCTCCATTATATATATATATATATATATATATATA				
6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8		465 GlySer	1411 AATGGTGCGCAAGCAGCA	1618 AGTTTATCTGCTGATTATGGAGGATATTATTTTCGATGGGAATCTTAAAAGAACGCCAAA 1618 AGTTTATCTGCTGATTATGGAGATATTATTTTCGATGGGAATCTTAAAAGAACAGCCCAAA 1618 AGTTTATCTGCTGCTGATTATGGAGATATTATTTTCGATGGGAATCTTAAAAGAACAGCCCAAA 1678 GAGAATGCTGCCGATGTTAAATGGC

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2569 GTGGATGGGCCTCTTATTGTCGAGGA	TTATGGGTTTCTGGAGTTTCGAATTTCTTC	1070 ALALIeLeulieAspulyleinfAspulniyrGlulleGlyLysFroinflyfLysSef 1089 2626 TATCATGACGCGATGCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGTTAT 2679		2680 TCCTTAGGAGCAAACTCCTACTTTGGATCATCGATGTTTGGTCTAGCATTTACCGAAGTA 2739	2740 TTTGGTAGATCTAAAGATTATGTAGTGTGTGGTTCCAATCATGCTTGCATAGGATCC 2799 1129 LygAlaProSerGlySer 1134	GTTTATCTATCTACCCAACAAGCTTTATGTGGATCCTATTTGTTCGGAGATGCG ::: ::: ::: :::	2854 TITAICCGTGCTAGCTACGGGTTTGGGAATCAGCATATGAAAACCTCATATACATTTGCA 2913 1155 PheleulysThrLysGlyLysSerGlyLysIlelleArgLysThrLysPheThrSerThr 1174			2980 GTGATTACTCCATCTAAGCTCTATTTGAATGAGTTGCGTCCTTTCGTGCAAGCTGAGTTT 3039 1:1::::::::::::::::::::::::::::::::::	3040 TCTTATGCCGATCATGAATCTTTACAGAGAAGGCGATCAAGCTCGGGCATTCAAGAGC 3099 1228 GlylleHisLysHisGluLeuAspValGlnLysSerArgArgPhe 1242	3100 GGACATCTCCTAAATCTATCAGTTCCTGTTGGAGTTTGATCGATGTTCT 3153 1243	AGTACACATCCTAATAAATAT : : : LveaenGluLeuaenGluThr	ATCTCTGGTACTGAGACAACGCTCCTATCCCATCAA		3289 GGAGTTGTGGTTAGAGGATCTATGTATGCTTCTAACAAGTAATATAGAAGTATATGGC 3348	3349 CATGGAAGATATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGTAGA 3408 1332	
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È	3436	TTGTTTTTTAGCTTGT	3495
q _Q	1367		1381
È	3496	TIGIGIICCIAIICGIAIGGAIICGCGAGCICICCICAAGIGIIAACGCCIAAIGIAACC	3555
qq	1382		1394
È	3556	ACTCCTTTTAAGGGAGATGTTTACTTGAATGGAGAC	3594
a	1395		1414
È	3595		3621
qq	1415		1434
à	3622		3672
qq	1435	Aspalaala	1454
ò	3673	GGACAAAACCATACATTTACAGATTCTCAAGGGCCAGTTCTT	3720
qq	1455	-	1473
Š	3721	CAAAATTATGCCTTCATTTCAGCAGAGAGACACTTACTCTGAGAGATTTTTCGAGTCTG	3780
qq	1474		1478
à	3781	ATGITCTCGAAAAATGITTCTTGCGGAGAAAAGGGAATGATCTCCGGGAAAACCGTGAGT.	3840
qq	1479		1492
ć	3841		3900
qa	1493	:::	1508
Š	3901	ACTGTGCCAACCTCATCAACTCCGCCTGCTCCAACAGTTAGTGATGCTCGGAAAGGG	3960
οgo	1509		1527
È	3961	TCTATTTTTTCTGTAGAGACTAGTTTGGAGATCTCAGGCGTCAAAAAGGGGTCATGTTC	4020
Db	1528		1536
ò	4021	GATAATAATGCCGGGAATTTCGGAACAGTTTTTCGAGGTAAGAATAATAATAATAATGCTGGT	4080
qq	1537		1554
È	4081	GGTGGAGGCAGTGGGTTCCGCTACATCAAGTACGACTTTTACAGTTAAAAACTGTAA	4140
БЪ	1554		1574
ò	4141	AGGAAAGTTTCTTTCACAGATAACGTAGCCTCTTGCGGAGGCGGAGTGGTTTATAAAGG	4200
DP	1574		1592
È	4201	CATTGTGCTTTTCAAAGACAATGAAGGAGGATA	4234
QQ	1592		1608
à	4235	TTCTTCCGAGGGAACACAGCATACGATGATTAAGGAT	4272
qu	1608		1628
à	4273	TCTTGCTGCTACTAATCAGGATCAGAATACGGAGACAGGAGGCGGTGGAGA 4324	
qq	1628	eLeualaTyrSerLysLeuValalaGlyThrValSerGlyValValGlyGly 1645	
RESULT 36 US-11-067 ; Sequenc ; Publica ; GENERAL	6 7-260. ce 20. L INFC	SULT 36 :-11-067-260-20 Sequence -20, Application US/11067260 Publication No. US20060051840Al GENERAL INFORMATION:	

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CTCTCGGTTGCTAACTGTGGC---CCTGTACAATTTTAAGGAATATCGCTAATGATGGT 1584
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| PheArgAlaAlaAlaValGlnHisAlaAsnAlaAlaAspGlyValArgIlePheAsn 747
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694 ValGluLeuAspAlaSerGluSerSerAlaThrProGluThrValGluThrAlaAlaAla 713
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654 LeuSerTyrTyrValArgArgGlyAsnAlaAlaAlaArgThrAlaScrAlaAlaAlaAlaHisSer 673
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501 GlyLysThrIleIleGluGlyGlySerLeuValLeuTyrGlyAsnAsnLysSerAspMet
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541 -----SerAspGlyIleValTyrLeuAlaAspThrAspGlnSerGlyAlaAsnGluThr
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559 ValHisIleLysGlySerLeuGlnLeuAspGlyLysGlyThrLeuTyr------
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460 ThrAlaAspThrLysGly-----
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| AlaAlaLeuLeuLeu-----GlnLysTyrProTrpMetSerAsn----------- 414
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362 CysGlyIleThrAlaMetTrpCysLeuSerAlaProTyrGluAlaSerValArgPheThr 381
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        APPLICANT: Arico, Maria
TITLE OF INVENTION: HETEROLOGOUS EXPRESSION OF
FILE REPERENCE: 22300209501
CURRENT APPLICATION NUMBER: US/11/067,260
CURRENT APPLICATION NUMBER: US/220,480
FRIOR APPLICATION NUMBER: 10/220,480
FRIOR APPLICATION NUMBER: PCT/IB01/00420
FRIOR APPLICATION NUMBER: PCT/IB01/00420
FRIOR FILING DATE: 2001-02-28
NUMBER OF SEQ ID NOS: 121
SOFTWARE: PatentIn version 3.2
SEQ ID NO 20
LENTH: 1312
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US-11-067-260-20
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AGTGCAGGAAGTAGAGTCCGGTTCTAAAAATAT 3426 'GGATTCGCGAGC---- 3525 TTAACGATTACCGGACAAAACCATACATTATCA 3693 CCAAAATTATGCCTTCATTTCAGCAGGAGACA 3753 Tyrashglnala----1266 ATGTTCTCGAAAAATGTTTCTTGCGGAGAAAAG 3813 ------dlulys 1268 GGGAAAACCGTGAGTATTTCCGGAGCAGGCGAA 3858 IleGlyAlaGlyLeuAlaAspAlaLeuThrAla 1071 CCTTTCGTGCAAGCTGAGTTTTCTTATGCCGAT 3051 ::: ::: ||| |GlnSerLeuThrLeuAspGlnSerValArgLys 1091 CAAGCT---CGGGCATTCAAGAGCGGACATCTC 3108 ||| ::: :::||| |GlyAlaGluLysThrTyrGlyAsnGlyAspSer 1111 AAGTTTGATCGATGTTCTAGTACACATCCTAAT 3168 ValAspGlyGlnLeuIleThrLeuGluSerGly 1143 ACAACGCTCCTATCCCATCAAGAGACATGGACA 3261
::: | | | | ::: | | |
SerAlaLeuThrAlaPheGlnThrGluGlnIle 1163 GGAGTTGTGGTTAGA------GGA 3306 ATAGAAGTATATGGCCATGGAAGATATGAGTAT 3366 -AspAlaGlyGlyLysLeu------1215 CCTTTTTTTTTGAGAICTACATCATTTTGTTTT 3486 1215 |||||||:::
AspPheAlaAlaLysGlnGlyAsnGlyLysIle 1230 ACGCCTAATGTAACCACTCCTTTTAAGGGAGAC 3573 TTTGTCAATGTCTATGCAGGAGCTGAAGAAGGT 3633 :::::::
NalaAlaAspileLysProAspGlyLysArgHis 1254 TGTGATGCT---- 3204

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302 PheSerThrGlyAsnAspAlaGlnAlaGlnProAsnThrTyrAlaLeuLeuProPheTyr 321
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284 SerAspTyrdlyAsnLeu-----SerTyrHisIleArgAsnLysAsnMetLeuPhelle 301
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GENERAL INFORMATION:

TITLE OF INVENTION: HETEROLOGOUS EXPRESSION OF NEISSERIAL PROTEINS
TITLE OF INVENTION: HETEROLOGOUS EXPRESSION OF NEISSERIAL PROTEINS
FILE REFERENCE: 223002099501
CURRENT APPLICATION NUMBER: US/11/067,260
CURRENT FILING DATE: 2005-02-25
PRIOR PAPLICATION NUMBER: 10/220,480
PRIOR APPLICATION NUMBER: PCT/1801/00420
PRIOR APPLICATION NUMBER: PCT/1801/00420
PRIOR PILING DATE: 2001-02-28
NUMBER OF SEQ ID NOS: 121
SOFTWARE: Patentin version 3.2

LENGTH: 1474
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234
139
438
352
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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Best Local Similarity:
Query Match:
DB:
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	440 G	GlyLeuLeuAspAlaGlyLysAlaMetAsnGlyProAlaSerPheProPheGlyAspPhe 459
	1102 G	GTTGCAGGAGTAAGAGGGGAGGGATTGCTGCTGTTCAGGATGGGCAGCAGGAGTGTCA 1161
_	460 T	thrAlaAspThrLysGly
	1162 T	tcatctacttcaacagaagatccagtagtaagtttttccagaaatactgcggtagagttt 1221
_	466 -	ThrSerAsplleAlaTyrSerPheArgAsnAsplleSerGlyThr 480
	1222 G	GATGGGAACGTAGCCCGAGTAGGAGATTTACTCCTACGGGAACGTTGCTTC 1278
		1326
•	_	:::
_	1327 T	TACATTGCTGCTAAGCAACCAACAAGTGGACAGGCTTCTAATACGAGTAATAAT 1380
•	521 7	argvaldluThriysGlyAlaLeuIleTyrAsnGlyAlaAlaSerGlyGlySerLeuAsn 540
		TACGGAGATGGAGGACTATCTTCTGTAAGAATGGTGGCGCAAGCAGGATCCAATAACTCT 1440
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_	89	GTAGCTGCTGGGAAAGGGGGAGCTATTAT 1518
0	575 7	ThrargLeuGlyLysSLeuLeuLysValAspGlyThralalleIleGlyGlyLysLeuTyr 594
_	1519 (GCCAAAAAG 1527
o	595	MetSerAlaArgGlyLysGlyAlaGlyTyrLeuAsnSerThrGlyArgArgValProPhe 614
~ 4	00 U	CTCTCGGTTGCTAACTGTGGCCCTGTACAATTTTTAAGGAATATCGCTAATGATGGT 1584
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۵ <	1585 (GGGGCGATTTAGGAGAAICTGGAGAGCICAGIIIAICIGCIGAAIAIGGAGAAICTGGGGGGGGGG
>-	1642	ATTATTTCGATGGGATCTTAAAAGAACAGCCAAA 1677
Ω	654	LeuserTyrTyrValArgArgGlyAshAlaAlaArgThrAlaSerAlaAlaAlaHisSer 673
>-	1678	
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> .	m .	ATTTCGATGGGATCGGGAGGGAAATAACGACATTAAGAGCTAAAGCG 1773
Ω	694	
>	1774	CATCAGATTCTCTTTAATGATCCCATCGAGATGGCAAACGGAAATAACCAGCCGCGG 1833
Q	714	AspArgThrAspMetProGlyIleArgProTyrGlyAlaThr 727
Α.	1834	
Q	728	PheArgAlaAlaAlaValGlnHisAlaAsnAlaAlaAspGlyValArgIlePheAsn 747
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Q	748	
<u>≯</u>		ATTGITCTTCGTGAAAAAGGCAAAATTATCAGTGAATTCTCTAAGTCAGACAGGTGGGGGT 2001
മ	768	ArgLeuLysAlaValSerAspGlyLeuAspHisAsnGlyThrGly 782

à	2002 CTGTATATGGAAGCT GGGAGTACATGGGAT 2031	2845
අු	::: - :::	1113
È	2032TTIGIAACTCCACAACACACCT 2061	Qy 2884 CAGCATATGAAAACCTCATATACATTTGCAGAGAGAGG
qq	803 GlyLysMetArgGlySerThrGlnThrValGlyIleAlaAlaLysThrGlyGluAsnThr 822	2926
∂ :	TCAGTTGATCACGCTTTCCAATCTGCATTTGTCTCTTTCTT	::: Db 1153 ProvalAspGlyPheSerLeuTyrArg1leHisTrpAsp
ል 8	823 ThralaalaAlaThrLeuGlyMetGlyArgSerThrTrpSer 836 2122 GCABACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGCGCAAGATTCTCATCCTGCA 2181	
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a 8	lyTyrLeuLysGlyLeuPhe	Qy 3058 TCTTTACAGAGAAAGGCGATCAAGCTCGGGCATTCAAG
ት 8	7439 GATILOGALGALAALGALTALGALTAGALALGALT	1213
è	2284 AATCAAAAAATCAATGTCCTGAAATTACAGTTAGGGACTAAGCCCCCA 2331	<pre>Qy 3118 TCAGTTCCTGTTGGAGGTGAGGTTGGTGGTGTTCTGGT </pre>
ብ &	883 AspGluHisAlaGluGlySerValAsnGlyThrLeuMetGlnLeuGlyAlaLeuGlyGly 902	Qy 3178 TTTATGGCGGCTTATATCTGTGATGCTTATCGCACCATC
÷ f	AlablaThrGlvAspLecThrValGluGlvGlvLeuArgTVrAsp	Db 1245 ProGluLeuAspArgSerGlyAsnAlaAlaGluAlaPhe
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q	:::	DD 1260
ò	2419 ACAGCAAATAATGGT2442	1261
ପ୍ର	942 SerLeuThrGludlyThrLeuValGlyLeuAlaGlyLeuLyBLeuSerGlnProLeuSer 961	3343 TATGGCCATGGAAGATA
કે ક	2443 CTGAAAGCTACATGGACTAAAACTGGGTATAAATCCTGGGCCTGAGCGAGTAGCTTCTTTG 2502	1275
3 <i>6</i>	GATATACGATCTGCG	
a	::: 979 ArgAspTyrThrValThrGlyGlyPheThrGlyAlaThrAlaAlaThrGlyLysThrGly 998	Db 1288 SerAsnile 1290
È	2548	RESULT 38 US-10-467-657-1088 Semisors 1088, Application US/10467657
d d	999 AlaArgAsnMetProHisThrargLeuvalAlaGlyLeuGlyAlaAspValGluPheGly 1018	; Publication No. US20050260581A1 ; GENERAL INPORMATION:
∂ සි	2593 GGATTATGGGGTTTCTGGAGTTTCGAATTTCTTTTAT	; APPLICANT: CHIRON SPA ; APPLICANT: PONTANA Maria Rita ; APPLICANT: PIZZA Mariagrazia
ò		; APPLICANT: MASIGNANI Vega ; APPLICANT: MONACI Blisabetta
ą	1038 HisserGlyArgValGlyValGlyTrArgPheLeuAspGlyGlyGlyGlyGlyThrGlySer 1057	; TITLE OF INVENTION: GONOCOCCAL PROIBENS AND NUCLEI; FILE REFERENCE: . CTEPRENT ADDITORION NIMBER: 118/10/467.657
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අු	spSerPhelleArgGlnValLeuAspArgGlnHisPheGluPro	PRIOR FILING DATE: 2001-02-12 NUMBER OF SEQ ID NOS: 9218
දි දි	2740 TTTGGTAGATCTAAAGATTAIGTAGTGTGTGGTTCCAATCATCAT 2784	<pre></pre>
È	TTC	; TYPE: PRT ; ORGANISM: Nelseeria gonorrhoeae ro-10.467-1089
g G	1097IleGlyLeuGlyLysileGlnSerHisGlnLeuGlyAsnLeuMetlle 1112	Alignment Scores:
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AGAGCGACATCTCCTAATCTA 3117 :::||| :::||| snaladlySerMetLeuThrGln 1231 |||::: ||ArgPheSerAspHisGlyHis 1132 ||||| erAspSerAspGluAlaGlySer 1152 ATAAT---- 2940 spGlyTyrGluHisHisProAla 1172 AGTITICITATGCCGATCATGAA 3057 GTACACATCCTAATAAATATAGC 3177 :::|||||| ----ArgalaThrArgTyrSer 1244 TCTCTGGTACTGAGACAACGCTC 3237 1260 || |elleglyAlaAlaGlyGluIle 1274 PRETGATTACTCCATCTAAGCTC 3000 laProLysGlyAlaArgAspile 1192 ::: | | | |::: rgLeuAsnLeuThrAspAsnArg 1212 ATTTAGCAAGACATGGAGTTGTG 3297 IA----GAAGTA 3342 BIC ACIDS 2845 GGAGATGCGTTTATCCGTGCTAGCTACGGGTT δ

1408 AAGAATGGTGGGAAGCAGGATCCA ::: :::	1504 GGGGGAGCTATTTATGCCAAA 882 ASPThrAlaLeulisLeulySaspE	902 AsnieuAsnieuAspAsnAlaThri	1588 GCGATTTATTAGGAGAATCTGGAC		933Argarga 1696AATGGC	 948 SerAlaGluSerArgPheAsnThrl	1738	1765 AAAGCAGGCATCAGATTCTCTTT	988 SerGluĞİYThrTyrThrLeu		1885 GTTTTGCTAATGGAAGCAGTACT ::: 1020 LeuSerGluAsnLeuAsnPheThr		Arg	1981CIMMOICMGACAGGIGGGAGGI 1059 GluLeuSerAspLysLeuGly	2038 ACTCCACAACCACCACAACAGCCT		2098 CATTGLCICITICITCITIGITA ::: 310SertenAgoAlaLeuIle	2158 CCAGCGCAAGATTCTCATCTTGCA		2218 AGTGGGCCTATCTTTTTGAGGAT	1130 GluGluGlu	22/8 GGITCIAMICAMAMATICATION :::::: 1145 AlaLysGlnArgGluAlaGlu	2338 GCCCCATCAGATTTGACTCTA
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Pred. No.: 5.05e-08 Length: 1468 Score: 193.00 Matches: 195 Bercent Similarity: 33.5\$ Conservative: 129 Best Local Similarity: 20.2\$ Mismatches: 367 Query Match: 2.4\$ Indels: 276 DB: 6aps: 47	TGACTTTCGAGAACATACGGACTTCTA	724 AGCGCTGCTGATGGACTGTTACTATTGAGGGTTTTAAAGAATTATCCTTTTCC 777		579 GlyasnasnasnasnleuaspSerLysLysGluilealaTyrasnGlyTrpPheGlyGlu 598 832 CAGACTCCGACGACAACATCT	::: LysAspAlaThrLysThrAsnGl	853	CTTTTGTTACTCAATAATGAGAAGTTCTCATTCTATAGTAATTTAGTCTCTGGA	639 LygLeuPhePheSerGlyArgProThrProHisAlaTyrAsnHisLeuGlySerGlyTrp 658	SeriysMetGluGly1leProGlnGlyGluIleValTrpAspAsnAspTrpIleAspArg	961GCTAAGAGCTTAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAA 1011 	AATACTGCTCA		1072 AACGAGGCTCCTATTGCCTTTGTAGCGAATGTTGCAGGAGGGGGGGG		ThrArgSerAspTrpThrGlyLeuThrSerCysThrGluLysThrIleThrAspAspLys	1186 GTAGTAAGTTTTCCAGAAATACTGCGGGAAAAAAAAAAA	1219TTTGATGGGAACGTAGCCCGAGTAGGAGGGGGG 1251	::: ::::: 767 HisLeuAsnLeuThrGlyLeuAlaThrLeuAsnGlyAsnLeuSerAlaGlyGlyAspThr 786	1252 ATTTACTCCTAC	787 Histyrth:ValThrArgAsnAlaThrGlnAsnGlyAsnLeuSsrLeuValGlyAsnAla 806	1291 APPACATION	1351 AGTGGACAGGCTTCTAATACGAGTAATAATTACGGAGATGGAGGAGCTATCTTCTGT 1407	822 SeraspasnalaSerPheAsnLeuSerasnasnalaValGlnasnGlySerLeuThrLeu 841

1408	AAGAATGGTGCGCAAGCAGGATCCAATAACTCTGGATCAGTTTCCTTTGAT 1458
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862	::: ::::: AspLysAlaValPheHisPheGluAsnSerArg
0	GGGGGAGCTATTTATGCCAAAAAGCTCTCG 1
882	AspThrAlaLeuHisLeuLysAspSerGluTrpThrLeuProSerGlyThrGluLeuGly 901
1534	GTTGCTAACTGTGGCCCTGTACAATTTTTAAGGAATATCGCTAATGATGGTGGA 1587
00	
922	GlyAlaGlnThrGlySerAlaAlaAspAlaPro932
1648	
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1738	GGAGGGAAAATAACGACATTAAGAGCT 1764
896	
1765	
988	SerGluGlyThrTyrThrLeuAlaValAsnAsnThrGlyAsnGlu 1002
1825	CCAGCGCAGTCTTCCAAACTTCTAAAAATTAACGATGGTGAAGGATACACAGGGGATATT 188
1003	
1885	GITTTTGCTAATGGAAGCAGTACTTTGTACCAAAATGTTACGATAGAGCAAGGAAGG
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1942	ATTGTTCTTCGTGAAAAGGCAAAATTATCAGTGAATTCT 19
1039	ArgTyrGlnLeuIleArgLygAspGlyGluPheArgLeuHisAsnProValLysGluGln 1
1981	CTAAGICAGACAGGIGGGAGICIGIAIAIGGAAGGIGGGAGIACAIGGGAITITIGIA 203
1059	GlureuserasprysreuclyrysaladlyGlurhrGlualaalareu
2038	ACTCCACAACCACCACAACAGCCTCCTGCCGCTAATCAGTTGATCACGCTTTCCAATCTG 209
1075	ThralaiysGlnaladinLeuAlaalaiysGinGlnalaGluLysAspAsnAla
2098	CATITGICICITICITCTITGITAGCAACAATGCAGTIACGAAICCTCCIACCAAICCT 2157
1093	
2158	8 CCAGCGCAAGATTCTCATCCTGCAGTCATTGGTAGCACAACTGCTGGTTACTATT 2217
1112	ValAlaGluProAlaArgGlnAlaGlyGlyGluAsnAlaGly1leMetGlnAla
2218	8 AGTGGGCCTATCTTTTTGAGGATTTGGATGATACAGCTTATGATAGGTATGATTGGCTA 2277
1130	GluGluGluLysLysArgValGlnAlaAspLysAspThrAlaLeu 11
2278	B GGITCTAAICAAAAAICAAIGICCIGAAAITACAGITAGGGACTAAGCCCCCAGCTAAI 2337
1145	5 AlaLysGlnArgGluAlaGluThrArgProAlaThrThr 1157
2338	8 GCCCCATCAGATTTGACTCTAGGGAATGAGATGCCTAAGTATGGCTATCAAGGAAGC 2394

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-----GCGAATGTTGCAGGAGTAAGAGGGGGAGGATTGCTGCTGTTCAGGAT 1143
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SerThrLeuThrAlaThrGlnPheThrIleGlu--------
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Matches:
Conservative:
Mismatches:
Indels:
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                                                                     TYPE: PRT
ORGANISM: Shigella flexneri 2a
PRIOR FILING DATE: 2004-02-06
NUMBER OF SEQ ID NOS: 763
SOFTWARE: Patentin version 3.3
SEQ ID NO 179
LENGTH: 955
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Best Local Similarity:
Query Match:
DB:
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Publication No. U820050288866A1
GENERAL INFORMATION
GENERAL INFORMATION
TITLE OF INVENTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE
TITLE OF INVENTION: COMPUTATIONAL METHOD FOR TOTENTIAL
FILE REPERENCE: 30853/40359A
CURRENT APPLICATION NUMBER: US/11/052,554A
CURRENT FILING DATE: 2005-02-07
PRIOR APPLICATION NUMBER: US 60/589,227
PRIOR PILING DATE: 2004-07-20
PRIOR APPLICATION NUMBER: IN 173/DEL/2004
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| PheGlyGln------TyrGlyIleGlyArgPheAspIleGlyIleSerAlaGlyAla 1306
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 GAT------GGGCGCTCTTATTGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTC 2622
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                                           2395 TGGAAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACA 2454
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|1321 IleargargargValLeuHisTyrGlyIleGlnalaargTyrArgalaGlyPheGlyGly
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304 SerHislleSerSerAlaGlnGlyGlyGlyLeuValThrSerSerSerAspAlaThrIle 323 1192 AGTTTTCCAGAAATACTGCGCTAGACTTGATGGGAACGTAGCCCGAGTAGGAGGGG 125 324 AsnPheSerGlyThrAlaAlaGlnArg	•
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	ACGAATCCTCCTACCAATCCTCCAGCGCAAGATTCTCATCGTGCAGTCATTGGTAGC 2193
2194 A	ACAACTGCTGGTTCTGTTACAATTAGTGGGCCTATCTTT
2233 - 675 A	
2272 T 695 T	TGGCTA
2278 -	
2308 T	TTACAGTTAGGGACTAAGCCCCCAGCTAATGCCCCATCAGATTTGACTCTAGGGAAT 2364
2365 0	GAGATGCCTAAGTATGGCTATCAAGGAAGCTGGAAGCTTGCGTGGGGATCCTAATACAGGA 2424 :::
2425 A	AATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAAACTGGGTATAAT 2475
2476 (CCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGTTTATGGGGATCCATTTTAGAT 2535
	ATACGATCTGCGCATTCAAGCAAGTGTGGATGGGCGCTCTTATTGT 2589
90	CGAGGATTATGGGTTTCTGGAGTTTCG 2616 ::::: ::::::::::::::::::::::::::
2617 7	AATTTCTTCTATCATGAGGCGGGATGCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGT 2676
2677 1	TATTCCTTAGGAGCAAACTCCTACTTTGGATCATGGATGTTTGGTCTAGCATTTACCGAA 2736 ::::::
	GTATTTGGTAGATCTAAAGATTATGTAGTGTGGTTCCAATCATCATGCTTGCATAGGA 2796 :::
2797	TCGGTTTATCTATCTACCCAACAAGCTTTATGTGGATCCTATTTGTTC 2844 ::: ::
2845 (GGAGATGCGTTTATCCGTGCTACGGGTTTGGGAAT
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TyrSerGlyGlyAspLysThr------AspGluGlylleArgLeuMetGlnGln 283
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362 CysGlyIleThrAlaMetTrpCysLeuSerAlaProTyrGluAlaSerValArgPheThr
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                                                                                                      JOHNSTALL ARTICO, MATIA

TITLE OF INVENTION: HETEROLOGOUS EXPRESSION OF NEISSERIAL PROTEINS
FILE REPERENCE: 2230.02095.01

CURRENT APPLICATION NUMBER: US/11/067,260

CURRENT FILING DATE: 2005-02-25

FRIOR APPLICATION NUMBER: L0/220,480

PRIOR PELLING DATE: 2002-08-80

PRIOR PELLING DATE: 2001-02-28

PRIOR APPLICATION NUMBER: PCT/IB01/00420

PRIOR APPLICATION NUMBER: PCT/IB01/00420

SOFTWARE: Patentin version 3.2

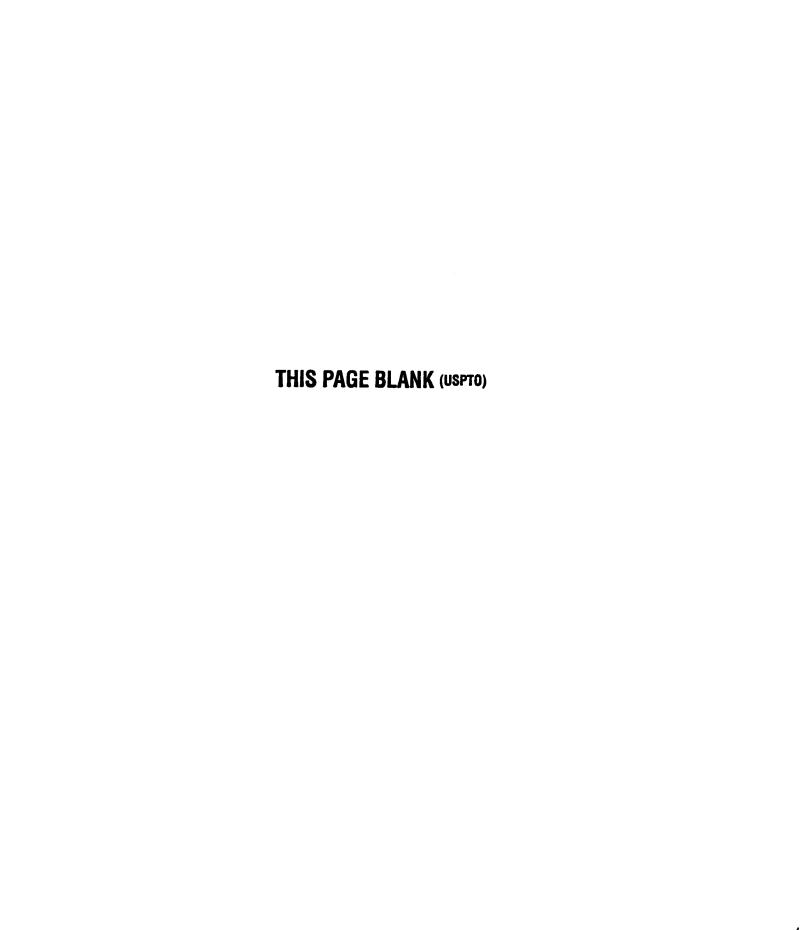
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US-11-067-260-24
                                                                      Sequence 24, Application US/11067260 Publication No. US20060051840A1 GENERAL INFORMATION:
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190.00
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                       938 GlnGlyAsn 940
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ORGANISM: Artificial
2932 TGGGATAAT
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1327 TACATTGCTGCTAAGCAACCAACA ----AGTGGACAGGCTTCTAATACGAGTAATAAT 1380
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1222 GATGGGAACGTAGCCCGAGTAGGAGGAGTTTTACTCCTACGGGAACGTTGCTTTC--- 1278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ------CTGAATAATGGAAAAACCTTGTTTCTCAACAATGTTGCTTCTCCTGTT 1326
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ------ATTATTTTCGATGGGAATCTTAAAAGAACAGCCAAA------1677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -------GAGAATGCTGCCGATGTTAATGGCGTAACTGTGTCCTCACAAGCC 1722
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1102 GTTGCAGGAGTAAGAGGGGAGGATTGCTGCTGTTCAGGATGGGCAGCAGGAGTGTCA 1161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ------AspArgThrAspMetProGlyIleArgProTyrGlyAlaThr 727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          :::|||
728 PheArgAlaAlaAlaAlaHisAlaAsnAlaAlaAspGlyValArgIlePheAsn 747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         634
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ::::::||| :::
674 AlaProAlaGlyLeuLysHisAlaValGluGlnGlyGlySerAsnLeuGluAsnLeuMet 693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ValGluLeuAspAlaSerGluSerSerAlaThrProGluThrValGluThrAlaAlaAla 713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----ThrSerAsplleAlaTyrSerPhe---ArgAsnAsplleSerGlyThr 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    :::
501 GlyLysThrIleIleGluGlyGlySerLeuValLeuTyrGlyAsnAsnLysSerAspMet 520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          594
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |||||| :::|||
575 ThrArgLeudlyLysLeuLeuLysValAspGlyThrAlallelleGlyGlyLysLeuTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MetSerAlaArgGlyLysGlyAlaGlyTyrLeuAsnSerThrGlyArgArgValProPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTCTCGGTTGCTAACTGTGGC----CCTGTACAATTTTTAAGGAATATCGCTAATGATGGT
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                                                        LeuLeuThrThrAlaGln---AspIleGlyAlaValGlyValAspSerLysPheGlyTrp
                                                                                                                                           ---retectategetaaceaegetectattecetrtgtaeceaat
                                                                                                                                                                                                                                                                                                                                                                                                                                           1162 TCATCTACTTCAACAGAAGATCCAGTAGTTTTTCCAGAAATACTGCGGTAGAGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |||||||:::|||| :::::
559 ValHisIleLysGlySerLeuGlnLeuAspGlyLysGlyThrLeuTyr------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1489 GTAGCTGCTGGGAAA-----GGGGGAGCTATTTAT
                                                                                                                                                                                                                   440 GlyLeuLeuAspAlaGlyLysAlaMetAsnGlyProAlaSerPheProPheGlyAspPhe
1006 CAAGAAATACTGCTCAAGCTGATGGGGGAGCTTGTCAAGTAGTCACCAGTTTC
                                                                                                                                                                                                                                                                                                                                                                   460 ThralaAspThrLysGly--
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ð :		AATGGAAGCAGTACTTTGTACCAAATGTTACGATAGAGCAAGGAAGG 1941
g	748 S	
È	1942 A	ATTGTTCTTCGTGAAAAGGCAAAATTATCAGTGAATTCTCTAAGTCAGACAGGTGGGAGT 2001
qa	768	ArgLeuLysAlaValSerAspGlyLeuAspHisAsnGlyThrGly 782
à	2002 C	CTGTATATGGAAGCT 2031
дg	783 L	euArgvailleAlaGlnThrGlnGlnAspGlyGlyThrTrpGluGlnGlyGlyValGlu 802
ò	2032 -	TITIGIAACTCCACAACCACAAGGCCT 2061
g G	803 G	GlyLyBMetArgGlySerThrGlnThrValGlyIleAlaAlaLyBThrGlyGluABnThr 822
È	2062 C	CCTGCCGCTAATCAGTTGATCAGCTTTCCAATCTGCATTTGTCTCTTTCTT
q	823 T	hralaala
ò	2122 G	GCAAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGCGCAAGATTCTCATCCTGCA 2181
QQ Q	837 G	
È	2182 G	GICATIGGIAGCACAACIGGIGGITCIGITACAAITAGIGGGCCCTAICITITIGAG 2238
Ор	850 P	healaGly1leArgHiBAapAlaGlyAspIleGlyTyrLeuLy8GlyLeuPhe 867
È	2239 G	GATTIGGATGATACGTTATGATGGTATGATTGGCTAGGTTCT 2283
ąg	868 -	
È	2284 A	AATCAAAAAATCAATGTCCTGAAATTAGAGTTAGGGACTAAGCCCCCA 2331
qa	883 A	spGluHisAlaGluGlySerValABnGlyThrLeuMetGlnLeuGlyAlaLeuGlyGly 902
È	2332 G	GCTAATGCCCCA 2364
qq	903 V	al Annal ProphealaalaThrGlyAspLeuThrValGluGlyGlyLeuArgTyrAsp 922
È	2365 -	365GAGATGCCTAAGTATGGCTATCAAGGAAGCTGGAAGCTTGCGTGGGATCCTAAT 2418
qq	923 L	euLeuLysGlnAspAlaPheAlaGluLysGlySerAlaLeuGlyTrpSerGlyAsn 941
λô	2419 A	ACAGCAAATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAAACTGGGTATAATCCT 2478
QQ	942 S	serLeuThrGluGly 946
È	2479 G	GGGCCTGAGCGAGTAGCTTCCTATGGTTCCAAATAGTTTATGGGGATCCATTTTAGAT 2535
qq	947 -	ThrLeuValGlyLeuAlaGlyLeuLysLeuSerGlnProLeuSerAspLys 963
È	2536 -	ATACGATCTGCGCATTCAGCAATTCAAGCAAGTGTGGATGGGGCGCTCTTATTGTCGA 2592
DP QC	964 A	AlaValLeuPheAlaThrAlaGlyValGluArgAspLeuAsnGlyArgAspTyrThr 982
È	2593 G	GGATTATGGGTTTCTGGAATTTCTTCTATCATGACCGCGATGCTTTAGGTCAG 2652
qq	983 -	ValThrGlyGlyPheThrGlyAlaThrAlaAlaThrGlyLy9 996
È	2653 -	GGATATCGGTATATTAGTGGGGTTATTCCTTAGGAGCA 2691
op qu	1 766	hrGlyAlaArgAsnMetProHisThrArgLeuValAlaGlyLeuGlyAla 1013
È	2692	AACTCCTACTTTGGATCATCGATGTTTGGCATTTACCGAAGTATTTGGTAGATCT 2751
qq	1014 7	AspvalGluPheGlyAsnGlyTrpAsnGlyLeuAlaArgTyrSerTyrAlaGlySer 1032
È	2752 #	AAAGATTATGTAGTGTGCTTCCAATCATCATGCTTGCATAGGATCCGTTTATCTATC
qq	1033 I	LysglnTyr 1046
ò	2812 4	ACCCAACAAGCTTTATGTGGATCCTATTTGTTCGGAGATGCG

::: ||| ||| ||| 1047 -----ArgPheLeuGluGlyGlyGlyGlyThrGlySerAlaThrAsnAspAspAspVal 1064 2854 ----- TITATCCGTGCTAGCTACGGGTTTGGGAATCAG---- 2886 2941 AACTGTCTGGCTGGAGAGATT------GGAGCGGGATTACCGATTGTG 2982 2887 -----CATATGAAAACCTCATATACATTTGCAGAGGAGGGGATGTTCGTTGGGATAAT 2940 ||| |||:::||| 1065 IysLysAlaAlaThrValAlaIleAlaAlaAlaTyrAsnAsnGlyGlnGluIleAsnGly 1084 Search completed: May 13, 2006, 12:17:46 Job time : 621.5 secs 3043 TATGCCGATCATGAA 3057 |||::: ||| 1144 AlaAlaGluSerGlu 1148 දු පු à g 8 8 ઠે g ઠે



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May 13, 2006, 10:00:08; Search time 28 Seconds (without alignments) 4572.014 Million cell updates/sec
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GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd.
                                                                                      OM nucleic - protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                             283416 segs, 96216763 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                Xgapop 10.0 , Xgapext
Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
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7883
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                                                                                                                                                                                                                          Title:
Perfect score:
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Command line parameters:
-WODEL=frame+.n2b.model -DEV=xlp
-Q=/abss/ABSSWEB_spool/US10701844/runat_12052006_165423_26326/app_query.fasta_1
-Q=/abss/ABSSWEB_spool/US10701844/runat_12052006_165423_26326/app_query.fasta_1
-DB=PIR -QFWT=fastan -SUGFIX=rpr -MINMATCH=0.1 -LOOPCL=0 -LOOPEXT=0
-UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi -LIST=45
-DOCALIGN=200 -THR_SCORE_pct -THR_MAX=100 -TTR_MN=0 -ALIGN=40 -MODE=LOCAL
-OUTPWT=pto -NORM=Ext -HEAPSIZE=500 -MINLEN=0 -MAXLEN=200000000 -HOST=abss02p
-USER=US10701844_@CGN 1 1 63 @runat 12052006 165423 26336 -NOPU=6 -ICPU=3
-WO WMAP NEG SCORES=0 -WAIT -DSPBLÖCK=100 -LONGLOG -DEV TIMEOUT=120
-WARN TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPEXT=7

PIR 80:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	probable outer mem	polymorphic membra	probable outer mem	polymorphic membra	polymorphic outer	polymorphic outer	polymorphic membra	polymorphic outer	polymorphic membra	polymorphic membra	polymorphic outer	polymorphic outer	polymorphic outer	polymorphic membra
Đ.		H81722	H71460	C81593	B86547	F72076	A81723	G86546	G81591	F81591	D72077	H86546	D86546	A81591
DB	7	~	8	~	7	~	N	~	~	7	~	~	~	7
* Query Match Length DB	1013	987	1016	995	973	973	983	928	928	949	928	928	930	0.00
% Query Match	65.1	48.8	20.2	17.3									13.3	
Score	5131.5	3846	1589	1366	1365.5	1365.5	1179	11.01	1101	1092	1090	0601	1083	1083
Result No.		7	e	4	S	9	7	80	σ	10	11	12	13	14

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D72078 C72078 B81591 C86546 B72077 B86546 B86546 C81591 B72078	B72131 E86491 F81539 F872130 B7121 B71460 E86492 G72076	C88554 / C88554 / C88554 / C881523 / C81460 / C86548 / C86549 / C72075 / C86557 / C72075 / C72067 / C7467 / C74667 / C74667 / C74667 / C74667 / C7467
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930 936 936 928 928 1276 1407	922 922 922 922 922 972 973	978 978 978 938 938 946 946 946
13.22 13.22 13.22 13.00 12.09 12.09		**************************************
1079 1040 1040 1021 1021 1015 1015 991.5	939.5 939.5 771.5	697 6796 649.5 649.5 644 611 609 609 599.5
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ALIGNMENTS

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G71460 probab	le outer membrane	protein G - (hlamydia trachom	G71460 probable outer membrane protein G - Chlamydia trachomatis (serotype D, strain UW3/Cx)	in UW3/Cx)
C, Spec	C, Species: Chlamydia trachomatis	achomatis	***************************************	7000 - [n] - 00 oxxxxx	
C;Date	C;Date: 13-Sep-1998 #86 C:Accession: G71460	guence_revisio	n 13-Sep-1998 #u	C;Date: 13-Sep-1998 #sequence_revision 13-Sep-1998 #text_cnauge v9-out-zoo* C:Accession: G71460	-
R,Step	hens, R.S.; Kalma	ın, S.; Lammel,	C.J.; Fan, J.;	Ristephens, R.S.; Kalman, S.; Lammel, C.J.; Fan, J.; Marathe, R.; Aravind, L.; Mitchell	L.; Mitchell
Scienc	Science 282, 754-759, 1998	866			71. J
A, Titl	e: Genome sequenc	e of an obliga	ite intracellula:	A; Title: Genome sequence of an obligate intracellular pathogen of humans: Chlamydia tra	iniamydia tra
A;Rete A;Acce	A;Reterence number: A/1 A:Accession: G71460	.570; MULD:990	. #978: UTW4 : #0800	0?	
A;Stat	A; Status: preliminary				
A; Mole	A; Molecule type: DNA	,			
A; Kesi A: Cros	dues: I-1013 card 18-references: UN	IPROT:084879; I	UNIPARC: UPI00001	A), CTOBS-Teferences: UNIPROT:084879; UNIPARC:UPI0000131CF5; GB:AE001360; GB:AE001273; NI	:AE001273; NI
A; Expe	A, Experimental source: serotype D, strain UW-3/Cx	serotype D, st	train UW-3/Cx		
C,Genetics: A,Gene: pmp	C;Genetics: A;Gene: pmpG				
Alianm	Alignment Scores:				
Pred. No.:	No.:	0	Length:	1013	
Score:		5131.50	Matches:	583	
Percen	Percent Similarity:	98.88	Conservative:	18	
Beat I	Best Local Similarity: Oner, Match:	65.18	Indels:	.	
OB:	Maccii:		Gaps:	ı c ı	
US-10-	US-10-701-844-1 (1-4435) x G71460 (1-1013)	5) x G71460 (1	-1013)		
ò	382 ATGCAAAC	STCTTTCCATAAGE	ATGCAAACGTCTTTCCATAAGTTCTTTCTAATGATTCTTCT	CTAGCTTATTCTTGCTGCTCT	441
q	1 MetGlnTh		hePheLeuSerMetIl		20
કે	442 TTAAATGG	3GGGGATATGCAG	CAGAAATCATGGTTCC	TTAAATGGGGGGGATATGCAGCAGAAATCATGGTTCCTCAAGGAATTTACGATGGGGAG	501
qq	21 LeuSerGly	relyclyTyralaa	laGlulleMetIlePr	LeuSerGlyGlyGlyTyrAlaAlaGluIleMetIleProGlnGlyIleTyrAspGlyGlu	40
ò	502 ACGTTAAC	IGTATCATTTCCCT	ATACTGTTATAGGAGA	ACGITAACTGIATCATITCCCTATACTGITATAGGAGATCCGAGTGGGACTACTGITTIT 561	561

401 AppGlyGlyAlailefyTcauGlyGluSerGlyGluteuSerLeuSerAlaAspFyTcJty 420 1639 GATATTTTTGGATGGATGTTTAAAACACCAAAGAGAAACACCAAAGAAACACCAAAGAAACACCAAAGAAACACCAAAGAAACACCAAAGAAACACCAAAACAAC	701.G
5 8 6 8 6 8 6 8 6 8 6 8 6 8 7 8 7 8 7 8	8 6 8 6 8 6 8
	CTGGATCGGTTTCAT 1458
	1402 TTCTGTAAGAATGGTGCGCAAGCAGGATCCAATAACTCTGGATCAGTTTCCTTTGAT

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RESULT 3
H71460
Probable outer membrane protein H - Chlamydia trachomatis (serotype D, strain UM3/Cx)
C;Species: Chlamydia trachomatis
C;Species: Chlamydia trachomatis
C;Date: 13-Sep-1998 #sequence_revision 13-Sep-1998 #text_change 09-Ju1-2004
C;Accession: H71460
R;Stephens, R.S.; Kanlan, S.; Lammel, C.J.; Fan, J.; Marathe, R.; Aravind, L.; Mitchell, Science 282, 754-759, 1998
A;Title: Genome sequence of an obligate intracellular pathogen of humans: Chlamydia trac TCCCATCAAGAGACATGGACAACAGATGCCTTTCATTTAGCAAGACATGGAGTTGTGGTT 3300 AGAGGATCTATGTATGCTTCTCTAACAAGTAATATAGAAGTATATGGCCATGGAAGATAT 3360 TTTACAGAGGAAGGCGATCAAGCTCGGGCATTCAAGAGCGGACATCTCCTAAATCTATCA TCTTAITGTCGAGGATTAIGGGTTTCTGGAGTTTCGAATTTCTTCTATCATGACCGCGAT TTTGGATCATCGATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAAGATTAT 2941 AACTGTCTGGCTGGAGAGATTGGAGCGGGATTACCGATTGTGATTACTCCATCTAAGCTC ATGGCGGCTTATATCTGTGATGCTTATCGCACCATCTCTGGTACTGAGACAACGCTCCTA GCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGTTATTCCTTAGGAGCAAACTCCTAC GCTTTATGTGGATCCTATTTGTTCGGAGATGCGTTTATCCGTGCTAGGCTACGGGTTTGGG TATTIGAAIGAGITGCGICCTTICGIGCAAGCIGAGITITCTIAIGCCGAICAIGAAICT GAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGTAGAGTCCGGTTC AAAACTGGGTATAATCCTGGGCCTGAGCGAGTAGCTT . 694 8 6 8 6 8 6 8 6 8 8 8 8 8 요 요 유 상 R ઠે B g ઠ 셤 ò 셤

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4374

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polymorphic membrane protein G family CP0299 [imported] - Chlamydophila pneumoniae (str. polymorphic membrane protein G family CP0299 [imported] - Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 15-Jun-2001
R;Aaccession: C81593
R;Rad, T.D; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg, Nucleic Acids Res. 28, 1397-1406, 2000
A;Fitle: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39.
A;Reference number: A81500; MUD:20150255; PMID:10684935
A;Accession: C81593
A;Accession: Preliminary
A;Molecule type: DNA
A;Mesidues: 1-995 - CREA
A;Molecule type: DNA
A;Mesidues: 1-995 - CREA
A;Cross-references: UNIPARC:UPI00001655F9; GB:AR002191; GB:AR002161; NID:g7189216; PIDN
A;Experimental source: strain AR39, HL cells
A;Cross-references
A;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         187 ATTTACGATGGGGAGACGTTAACTGTATCCCTATACTGTTATAGGAGATCCGAGT 546
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                                                                                                                                             298 yGlyGlyGlyCallleCysSerProAspAspSerValLysPheGluGlyAsnLysGlySe
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                  ATACGATGATTTAAGGATTCTTGCTGCTACTAATCAGGATCAGAATACGGAGACAGGAGG
TAAAGGCATTGTGCTTTTCAAAGACAATGAAGGAGGCATATTCTTCCGAGGGAACACAGC
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 A;Reference number: A71570; MUID:99000809; PMID:9784136
A;Accession: H71460
A;Status: preliminary
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A;Residues: 1-1016 <ARN>
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C;Genetics: A;Gene: pmpH
C;Superfamily: Polymorphic membrane protein H family
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201 MetPheAagAanAanAlaGlyAbnPheGlyThrValPheArgGlyAsnSerAsnAsnAsn 220
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94 ArgThrSerSerSerCysPheSerAsnArgA	ArgThrSerSerCysPheSerAsnArgAlaGlyAlaLeuGlnIleLeuGlyLysGly 113	
667 CACTCGTTGACTTTCGAGAACATACGGACTTC ::: :: 114 GlyValPheSerPheLeuAsnIleArgSerS	CACTCGTTGACTTTCGAGAACATACGGACTTCTACAAATGGGGCAGCTCTAAGTAATAGC 726 ::: ::: :::	<u>-</u>
727 GCTGCTGATGGACTGTTTA(; 134 IleThrGlnAsnProGluLeuCysProLeuS	GCTGCTGATGGACTGTTTACTATTGAGGGTTTTAAAGAATTATCCTTT 774 ::: ::::	
775 TCCAATTGCAATTCATTACTTGCCGTACTGCC 154 AspAenCysGluSerLeuThr	TCCAATTGCAATTCATTACTTGCCGTACTGCCTGCTGCAACGACTAATAAGGGTAGCCAG 834 AspAsnCysGluSerLeuThrSerAsp 162	
835 ACTCCGACGACAACATCTACACCGTCTAATG(ACTCCGACGACACATCTACACCGTCTAATGGTACTATTTATT	
895 TTACTCAATAATGAGAAGTTCTCATTACTATA(TTACTCAATAATGAGAAGTTCTCATTCTATAGTAATTTAGTCTCTGGAGATGGGGGAGCT 954 ::: 	
955 ATAGATGCTAAGAGCTTAACGGTTCAAGGAA'	ATAGATGCTAAGAGCTTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAAT 1014 	
1015 ACTGCTCAAGCTGATGGGGGAGCTTGTCAAG 1:: :::::: 223 GlySerlleSerAenGlyGlyAlaLeuThrG	ACTGCTCAAGCTGATGGGGAGCTTGTCAAGTAGTCACCAGTTTCTCTGCTATGGCTAAC 1074	
1075 GAGGCTCCTATTGCCTTTGTAGCGAATGTTG 243 SerAlaProValllePheSerThrAsnalaT	GAGGCTCCTATTGCCTTTGTAGCGAATGTTGCAGGAGTAAGAGGGGGGGG	
1135 GTTCAGGATGGGCAGCAGGGAGTGTCATCATC	GTTCAGGATGGCAGCAGGAGTGTCATCTACTTCAACAGAAGATCCAGTAGTAAGT 1194 ThrGlyGlySeIMetLeuThrSer	
1195 TTTTCCAGAAATACTGCGGTAGAGTTTGATG :::	TTTCCAGAAATACTGCGGTAGAGTTTGATGGGAACGTAGCCCGAGTAGGAGGAGGGATT 1254 GlyAsnLeuSerGlyValLeuPheValAsnAsnSerSerArgSerGlyGlyAlaile 289	
1255 TACTCCTACGGGAACGTTGCTTTCCTGAATA	TACTCCTACGGGAACGTTGCTTTCCTGAATAATGGAAAACCTTGTTTCTCAACAATGTT 1314 :::	
1315 GCTTCTCCTGTTTACATTGCTGCTAAGC	GCTTCTCCTGTTTACATTGCTGCTAAGCAACCAACAGGGGCAGGCTTCTAATACG 1371 AlaSerProGlnAsnSerLeuProAlaProThrProProProProProProProAlaValThr 329	
1372 AGTAATAATTACGGAGATGGAGGGGGTATCT 330 ProLeuLeuGlyTyrGlyGlyAlaileP	agtaataattacggagatggaggctatcttctgtaagaatggtgcgcaagcaggatcc 1431 	
1432 AATAACTCTGGATCAGTTTCCTTTGATGGAG	AATAACTCTGGATCAGTTTCCTTTGATGGAGGGGAGTAGTTTTCTTTAGTAGCAATGTA 1491	
1492 GCTGCTGGGAAAGGGGGGGGCTATTTATGCCA	GCTGCTGGGAAAGGGGGAGCTATTTATGCCAAAAAGCTCTCGGTTGCTAACTGTGGCCCT 1551 ::: ::: :	
1552 GTACAATTTTTAAGGAATATCGCTAATGATG	GTACAATTTTTAAGGAATATCGCTAATGATGGTGCAGCGATTTATTT	
1612 GAGCTCAGTTTATCTGCTGATTATGGAGATA	GAGCTCAGTTTATCTGCTGATTATGGAGATATTATTTGGATGGGAATCTTAAAAGAACA 1671 ::	
1672 GCCAAAGAGAATGCTGCCGATGTTAATGGCG	GCCAAAGAGAATGCTGCCGATGTTAATGGCGTAACTGTGTCCTCACAAGCCATTTCGATG 1731 	

2505 2386 CAAGGAAGCTGGAAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCTTATACTCTG 2445 2506 CCAAATAGTTTATGGGGATCCATTTTAGATATAGGATCTGCGCATTCAGCAATTCAAGCA 2565 2566 AGTGTGGATGGGCGCTCTTAT---TGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTC 2622 2683 TTAGGAGCAAACTCCTAC-----TTTGGATCATCGATGTTTGGTCTAGCATTTACC 2733 2272 TGGCTAGGTTCTAAT---CAAAAATCAATGTCCTGAAATTACAGTTAGGGACTAAGCCC 2328 2329 CCAGCTAATGCCCCCATCAGATTTG---ACTCTAGGGAATGAGATGCCTAAGTATGGCTAT 2385 2623 ITCTATCATGACCGCGATGCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGTTATTCC 2682 GGATCGGGAGGGAAAATAACGACATTAAGAGCTAAAGCAGGCCATCAGATTCTCTTTAAT 1791 GATCCCATCGAGATGGCAAACGGAAATAACCAGCCAGCGCAGTCTTCCAAACTTCTAAAA 1851 1891 -----GCTAATGGAAGCAGTATGTACCATTGTACCAA 1917 |||||| :::|||||||| ||| GluThrLeuThrAlaThrProAlaAsnAlaThrSerThrLeuAsnGln 515 1918 AATGTTACGATAGAGGAAGGATGTTCTTCGTGAAAAGGCAAAATTATCAGTGAAT 1977 1978 TCTCTAAGTCAGACAGGTGGGAGT---CTGTATATGGAAGCTGGGAGTACATGGATTTT 2034 2035 GTAACTCCACAACCACACAACAGCCTCCTGCCGCTAATCAGTTGATCAGCTTTCCAAT 2094 ||| ||||||||::: 554 AlaThrThrAsnGlyAlaAsnAsnThrAspGlyAla------ileThrLeuAsnLys 570 CTGCATTTGTCTTTCTTTGTTAGCAACAATGCAGTTACGAATCCTCCTACCAAT 2154 CCTCCAGCGCAAGATTCTCATCCTGCAGTCATTGGT---AGCACAACTGCTGGTTCTGTT 2211 2212 ACAATTAGTGGGCCTATCTTTTTGAGGATTTGGATGATACAGCTTATGATAGGTATGAT 2271 636 ValThrThrThrAspPheSerLeuGlyThrAsnGlyTyrGlnGlnSerProTyrGlyTyr 655 ::: ||||:::||| Ile-----AsnThrTyrThrArgIleThrProAspAlaAlaLeuSerLeuGlyPheGly 766 2446 AAAGCTACATGGACTAAAACTGGGTATAATCCTGGGGCTGAGGGGGGTAGCTTCTTTGGTT :::||| |||||||| 477 ValAsnProLysAlaSerAlaAspGly---AlaTyrSerGlyThrIleValPheSerGly 1852 ATTAAC------GATGGTGAAGGATACACAGGGGATATTGTTTTT 749 1732 1792 584

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QY 2734 GAAGTATTGGTAGATCTAAAGATTATGTAGTGTGTCGTTCCAATCATCATGCTTGCATA 2793 S:::::	Db 787 AlaThrValTyrSerAgnIleThrLygSerLeuPheGlySerSerArgPhePheSerGly 806 Qy 2851 GCGTTTATCCGTGCTACGGGTTTGGGAATCAGCATATGAAAACCTCATATACATTT 2910 Db 807 GlyThrSerArgValThrTyrSerAgGerAgGGluLy8ValLy8ThrSerTyrThrLyg 826	Qy 2911 GCAGAGAGAGAGTTCGTTGGATAATAACTGTCTGGCTGGAGAGATTGGAGGGA 2970 :::	Oy 2971 TTACCGATTGTCATTACTCCATCTATATGAATGAGTTGCGTCCTTTCGTGCAA 3030	Oy 3031 GCTGAGTTTTCTTATGCCGATCATGAATCTTTTACAGAGGAAGGCGATCAGGCGGGCA 3090	Qy 3091 TTCAAGACCGACATCTCCTAAATCTATCAGTTCGAGGAGGAGGTTTGATCGATGT 3150	Oy 3151 TCTAGTACACATCCTAATAAATATAGCTTTATGGGGGGCTTATATGTGTGATGCTTATCGC 3210	Qy 3211 ACCATCTGGTACTGAGACACGCTCCTATCCCATCAAGAGACATGGACAACAGATGCC 3270	Qy 3271 TTTCATTTAGCAAGACATGGGTTAGAGGATCTATGTTTCTCTAACAAGT 3330	Qy 3331 AATATAGAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCTCGAGGCTATGGT 3390 1::	Qy 3391 TTGAGTGCAGGAAGTACGGGTTC 3417 Db 987 LeudspileGlySerLysheudrgPhe 995	RESULT 5 B86547 polymorphic outer membrane protein G family [imported] - Chlamydophila pneumoniae (strai	C;Date: 02-Mar-2001 #Bequence_revision 02-Mar-2001 #text_change 09-Jul-2004 C;Accession: B86547 R;Shirai, M.; Hirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, T.; Is Nucleic Acids Res. 28, 2311-2314, 2000	A;Title: Comparison of whole genome sequences of chlamydia pneumoniae J138. A;Reference number: A86491; MUID:20330349; PMID:10871362 A;Accession: B86547 A;Status: preliminary	A;Molecule type: DNA A;Residues: 1-973 <sto> A;Cresidues: 1-973 <sto> A;Cresidues: UNDROT:092896; UNIPARC:UPI000004707B; GB:BA000008; NID:g8978824; PI A;Experimental source: strain J138</sto></sto>	C;Genetics: A;Gene: pmp 13 C;Superfamily: Chlamydophila pneumoniae polymorphic outer membrane protein G	Alignment Scores: 5.63e-86 Length: 973 Pred. No.: 1365.50 Matches: 350 Score: 1365.50 Conservative: 171 Best Local Similarity: 33.5\$ Mismatches: 420

2461 AAAACTGGGTATAATCCTGGGCTGAGGGGTA 2461 AAAACTGGGTATAATCCTGGGCTGAGGGGTA 2521 GGATCCATTTTAGATATACGACTGATGATGLE 2521 GGATCCATTTTAGATATACGATCTTGGGATTAGT 2521 GGATCCATTTTAGATATACGATTATGGGTATTAGT 2521 GGATCCATTTAGATATACGATTATGGGTTTTAGT 2521 GATGCTTTAGGTCAGGGATTATGGGTTTTAGT 2521 TCTTATTGTGGAGATTATGGGTTTTGGT 2521 TCTTATTGTGAGGATTATGGGTTTTGGT 2522 GATGCTTTAGGTCAGGATAATGGAGTATTGGT 2532 GATGCTTTAGGTCAGGATAATGGTGTTTGGT 2533 GATGCTTTAGGTCAGGATAATGGTAGTTTGGT 2534 GATGCTTTAGGTCAGGATAATGGTGTTTGGT 253 GATGCTTTAGGTCAGGATAATGGTGTTTGGT 2536 GATGCTTTAGGTCAGGATAATGGTGTTTGGT 2536 GATGCTTTAGGTCAGGATAATGGTGTTTGGT 2536 GATGCTTAGGTTTAGGAGATCAGGATAAAACT 2536 GATCCATGGGATAATAATGAGTGTGTTTGGTGTTTGGT 2536 GATGCTTAGGATAATAATGAGTTTTGAAAAACT 2536 GATCCATCGAGAATATTAGAATGAAAAAAAAAAAAAAAA
7384 738
131 TYGUTGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG
6

FINITION STATEMENT STATEME GITIGATCGATGTICTAGTACACATCCT 3165 TCGAGGCTATGGTTTGAGTGCAGGAAGT 3405 AGCTTCTTTGGTTCCAAATAGTTTATGG 2520 ITCTAGCATTTACCGAAGTATTTGGTAGA 2748 TTTGTTCGGAGATGCGTTTATCCGTGCT 2865 GATTGGAGCGGGATTACCGATTGTGATT 2985 ATCAAGCTCGGGCATTCAAGAGCGGACAT 3105 FIGATGCTTATCGCACCATCTCTGGTACT 3225 SGACAACAGATGCCTTTCATTTAGCAAGA 3285 TITCICIAACAAGIAAIAIAGAAGIAIAI 3345 AGCAATTCAAGCAAGTGTGGATGGGCGC 2580 TEGGGGGTTATTCCTTAGGAGCAAACTCC 2697 TCATGCTTGCATAGGATCCGTTTATCTA 2808 AGTTTCGAATTTCTTCTATCATGACCGC 2637 CTCATATACATTTGCAGAGGGGGGGGT 2925 ||| :::::: |||||| nAla----SerAlaAlaAspGlyGlu 691 |::::::|||||||||::: ::: yIleThrAsnPhePheHisAlaAsnHis 711 |||||||||| yGlyGlyTyrLeulle-----AsnThr 729 ||| ||| :::::||| srLeuGlyPheGlyGlnLeuPheThrLys 749 :::
::AsnValTyrPheAlaThrValTyrSer 769 |||||||||||| |INSerTyrThrLysLeuProLysGlyArg 809 ::: ||| ||| coGluGlyArgIlePheGlyHisGlyHis 869 ::|||| ::: |||| rgPheGlyLysAsnSerHisAsnArgPro 889 colspvallyrArghisAsnProAspCys 909 |||||::: :::||| |||| pthrSerIleGlyAsnAsnLeuThrArg 929 :::|||::: ----HisThrValThrGlyAsnTrpLys 653 gPhePheSerGlyGlyThrSerArgVal 789

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GGTGGGAGT---CTGTATATGGAAGCTGGGAGTACATGGGATTTTGTAACTCCACAACCA 2049
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                                              TITGIAGCGAATGITGCAGGAGTAAGAGGGGGAGGGAITGCTGCTGCTGTACAGGATGGGCAG 1149
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391 AlaAsnGlnGlyAspIleLeuPheAsnLysAsnLeuSerIleThrSerGly-----
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polymorphic outer membrane protein g family - Chlamydophila pneumoniae (strain CWL029) C; Species: Chlamydophila pneumoniae, Chlamydia pneumoniae C; Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004 C; Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004 C; Accession: F72076 R; Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.; Nature Genet. 21, 385-389, 1999 A; Title: Comparative genomes of Clamydia pneumoniae and C. trachomatis. A; Reference number: A72000; MUID:99206606; PMID:10192388 A; Accession: F72076 A; Status: preliminary A; More coule type: DNA A; Residues: 1-973 < ARN> A; Residues: 1-973 < ARN> A; Residues: 1-973 < ARN> A; Coss-references: UNIPROT:Q92896; UNIPARC:UPI000004707B; GB:AE001629; GB:AE001363; NIC A; Experimental source: strain CWL029 C; Genetics pmp_13 A; Genetics pmp_13 C; Superfamily: Chlamydophila pneumoniae polymorphic outer membrane protein G
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A;Status: preliminary
A;Molecule type: DNA
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A;Residuss: 1-983 <TET>
A;Cross-references: UNIPARC:UPI0000057868; GB:AE002293; GB:AE002160; NID:G7190298; PIDN:A;Experimental source: strain Nigg (MoPn)
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polymorphic membrane protein H family TC0264 [imported] - Chlamydia muridarum (strain Ni c)species: Chlamydia muridarum, Chlamydia trachomatis Mobn
C;Species: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Dec-2002
C;Accession: A81723
R;Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg, Nucleic Acids Res. 28, 1397-1406, 2000
A;Title: Genome sequences of Chlamydia trachomatis Mopn and Chlamydia pneumoniae AR39.
A;Reference number: A81500; MUID:20150255; PMID:10664935
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805 IleargGlaaspSerPheSerGluLysGlyThrGluGlyArgSerPheAspAspSerAsn 824 106 CICCIAAAICTAICAGIICCIGIIGGAGIGAAGIIIGGAICGAIGIICIAGIACACAICCI 3165 166 AATAAATATAGCTTTATGGCGGCTTATATCTGTGATGCTTATCGCACCATCTCTGGTACT 3225 226 GAGACAACGCTCCTATCCCATCAAGAGACATGGACAACAGATGCCTTTCATTTAGCAAGA 3285 CATGGAGTTGTGGTTAGAGGATCTATGTATGCTTCTCTAACAAGTAATATAGAAGTATAT 3345 346 GGCCATGGAAGATATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGT 3405 491 GTAGCTTCTTTGGTTCCAAATAGTTTATGGGGATCCATTTTAGATATACGATCTGCGCAT 2550 671 GGGGGTTATTCCTTA---GGAGCAAACTCCTACTTTGGATCATCGATGTTTGGTCTAGCA 2727 728 TTTACCGAAGTATTTGGTAGATCTAAAGATTATGTAGTGTGTCGTTCCAATCATCATGCT 2787 815 CAACAAGCTTTATGTGGATCCTATTTGTTCGGAGATGCGTTTATC-----CGTGCTAGC 2868 929 CGTTGGGATAATAACTGTCTGGCTGGAGATTGGAGCGGGATTACCGATTGTGATTACT 2988 568 TyrGlyTyrGlnGlyThrTrpGlyMetThrTrpValAspAspThrAlaSerThr---Pro 586 627 GlyValileGluArgSerAlaLeuThrLeuCysSerAspArgGlyPheTrpAlaAlaGly 646 |||:::||||||| 647 ValalaAsnPheLeuAspLysAspLysGLyGlyGluLysArgLysTyrArgH1sLysSer 666 551 TCAGCAATTCAAGCAAGTGTGGATGGGCGCTCTTATTGTCGAGGATTATGGGTTTCTGGA 767 SerTrpGlyAsnAsnAlaPheAsnMetMetLeuGlyAlaSerSerHisSerTyr----788 TGCATAGGATCCGTTTATCTATCT-----406 AGAGTCCGGTTC 3417 ::: :::||| 925 LysPheGlnPhe 928

	1333 GCTGCTAAGCAACAACAGCTTCTAATACCAGTAATAATTACCGAGATCGA 1392 1393 1395 139	364
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                                                                                                   AATCCTCCTACCAATCCTCCAGCGCAAGATTCTCATCCTGCAGTCATTGGTAGCACAACT
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|GlyThrAlaThrThrAspValProAlaValProThrValAlaThrPro---ThrHis
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TyrGlyTyrGlnGlyThrTrpGlyMetThrTrpValAspAspThrAlaSerThr---Pro
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|IyGlyTyrAla1leGlyGlyAlaAlaGlnThrCysSerGluAsnLeu1leSerPheAla
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A;Cross-references: UNIPARC:UPI00001655FA; GB:AE002192; GB:AE002161; NID:g7189226; PIDN:.
A;Experimental source: strain AR39, HL cells
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A; Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39.
A; Reference number: A81500; MUID:20150255; PMID:10684935
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3046 GCCGATCATGAATCTTTTACAGAAGGCGATCAAGCTCGGGCATTCAAGAGCGGACAT 3105
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C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 15-Jun-2001
                                     :::|||||:::|||| :::||| :::||| :::||| :::||| :::||| :::||| :::||| :::||| :::||| :::||| :::||| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::|| :::
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| GlnSerLeuAlaAsn-----GluGluLeuLeuSerProAspAspSerPheAsn
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A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-949 <REA>
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R;Read, T.D.; Brunh
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A;Gene: pmp_11
C;Superfamily: Chlamydophila pneumoniae polymorphic outer membrane
                           A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-928 ARNN>
A;Cross-references: UNIPROT:086164; UNIPARC:UPI000002FFEF;
A;Rxperimental source: strain CWL029
C;Genetics:
A.Title: Comparative genomes of Clamydia pneumoniae and (
A.Reference number: A72000; MUID:99206606; PMID:10192388
A.Accession: D72077
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             1578 GGCTCTTATTGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTCTTCTATCATGACCGC 2637
                                                                                          TACTTI---GGATCATCGATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAA 2754
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|LeuSerIleProValGlyAlaLy8PheValGlnGlyAspIleGlyAspSerTyrThrTyr 868
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|LeuValMetSerProAspSerTrpLysIleArgGlyGlyAsnLeuSerArgGlnAlaPhe
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1 MetLysThrSerIleProTrpValLeuValSerSerValLeuAlaPheSerCysHisLeu
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polymorphic outer membrane protein g family - Chlamydophila pneumoniae (strain CWL029) C;Species: Chlamydophila pneumoniae, Chlamydophila pneumoniae, C;Dates 23.Apr-1999 #sequence_revision 23.Apr-1999 #text_change 09-Jul-2004 C;Accession: D72077 Rstanan, 8.; Mitchell, W.; Marathe, R.; Lammel, C.; Pan, J.; Olinger, L.; Grimwood, J Nature Genet. 21, 385-389, 1999

,		ò	2122 GCAAAC
È	GCTGCTGTTCAGGATGGGCAGGAGGTGTCATCTACTTCAACAGAAGATCCAGTA	đ	488 LeuLys
g		ò	2182 GTCATT
Š	GTAAGTTTTTCCAGAATACTGCGGTAGAGTTTGATGGGAACGTAGCCGGGTAGGA	qa	494 LeuThr
සු .		È	2242 TTGGAT
රි සි	1246 GGAGGGATTTACTCCTACGGGAACGTTACTTTCCTGAATAATGGAAAAAACTTGTTTCT 2303 231 G1461481aT1abanaanG14G14ThTGATTAGAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	q	514 ileGlu
8 8	AACAATGTTGCTTCTCCTGTTTACATTGCTGAAGGAACGAAC	ò	
음	::: 241GluGlyAsnAlaAla 245	අ :	533 LeuLys
È	AATAATTACGGA	} 8	549 Serlen
qq	246 LysThrThrGlyGlyAlalleCysAsnThrLysAlaSerGly 259	δ	
È	1426 GGATCCAATAACTCTGGATCAGTTTCCTTTGATGGAGGAGTA 1470	: A	::: 569 AenVal
Ор		ò	2458 ACTAA
è 1	1471 GTTTTTTTAGTAGCAATGTAGCTGCTGGGAAAGGGGGGGG	qu	 588 Thrlye
8 8	LEGILLERIEGALGAGILABIIVGIALIGGELGIIILGGELGIYGIYALGILEGILGGILGGILGGILGGILGGILGGILGGILGGIL	ò	2518 TGGGG
3 8		අු	608 TrpGly
g 8	Alabeuserserstyczyrietiirciureneum gabumanaanaanaanaanaanaanaanaanaanaanaanaana	È	2578 CGCTC
Š 1		අධ	628 MetGlu
8 8	LYBG19G17A1G1TG3G1TTGABPA1G3G1G17G1GGGGGTTGGGGGTTGGCGTTATATATATATATATATATAT	ò	2638 GATGCT
è 6	1639 GAIAIIAIIII COALGOCAANIII IAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	qq	648 AspGlı
} }	1699 GGGGRAACHGTGTCCTCACAAGCCATTTCGATGGGATCGGGAAAATAACGACATTA 1758	Š	2698 TACTT
6 8	347ThrProLysArgAsnAlaileAsnIleGlySerAsnGlyLysPheThrGluLeu 364	qa ,	668 HisTh
È		ò	2755 GATTAT
; a	 	Op	688 AspCy
8 8	AACCAGCCAGCGCAGTCTTCCAAACTTCTAAAAATTAACGATGGTGAAGGA	à	
. a		a	708 SerHi
ઠે	1870TACACAGGGATATTGTTTTTGCT	ð í	2854 TTTAT
. 名	AsnPr	<u>a</u> è	728 ALAIL
È	1894AATGGAAGCAGTACTTTGTACCAAAATGTTACGATAGAGCAAGGAAGG	a	748 Hisse
QQ	419 ValAlaAspAsnLeuLysSerSerPheThrGlnProValSerLeuSerGlyGlyLysLeu 438	ò	
È		q	 768 SerAB
셤	458	ò	2995 AAGCT
ð í	2005 TATANGGAAGCTGGGAGTACATGGGGATTTTGTAACTCCACAACACACCACCACCACCACCACCACCACCAC	qq	788 HisPr
g (rending year the first till bedoes the first till bedoes the control of the contr	ò	3055 GAATC
දි සි	2062 CCTGCCGCTAATCAGTTGATCACCTTTCCAATCTGCATTTGTCTTTTTTTT	qΩ	808 AsnSe
3		à	3115 CTATC

2122 GCA 488 Lev	218
2182 GTC ::: 494 Leu	GTCATTGGTAGCACAACTGCTGCTTGCAATTAGTGGGCCTATCTTTTTGAGGAT 2241 ::: :::
2242 TTG ::: 514 Ile	TTGGATGATACAGCTTATGATAGGTATGATTGGCTAGGTTCTAATCAAAAATCAATGTC 2301 ::::::
2302 CTC 533 Leu	CTGAAATTACAGTTAGGGACTAAGCCCCCAGCTAATGCCCCATCAGATTTGACTCTAGGG 2361 :: ::: ::: LeulysilethrvalAspalaaspvalaspthrasnvalaspileser 548
2362 AAT ::: 549 Ser	AATGAGATGCCT
2398 AAC 569 ABI	AAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACATGG 2457
2458 ACT 588 Th	ACTAAAACTIGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGTTTA 2517
2518 TGC 	TGGGGATCCATTTTAGATATGACATCTGCGCATTCAGCAATTCAAGCAAG
2578 CGC 628 Met	CGCTCTTATTGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTCTTCTATCATCACCGC 2637 ::: ::: ::::::
2638 GA 	GATGCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGTTATTCCTTAGGAGCAAACTCC 2697
2698 TA	TACTTTGGATCATCGATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAA 2754 ::: HisThrProLysAspAspLeuPheThrPheAlaPheCysHisLeuPheAlaArgAspLys 687
2755 GA' 	GATTATGTAGTGTGTGCGATCGTGCTTGCATAGGATCCGTTTATCTATC
2815 CA.	CAACAAGCTTTATGTGGATCCTATTTGTTCGGAGATGCG 2853
2854 TT 728 AL	TTTATCCGTGCTAGGG 2874
2875 TT 748 Hi	TTTGGGAATCAGCATATGAAAACCTCATATACATTTGCAGAGAGAG
2935 GA 768 Se	GATAATAACTGTCTGGCTGGAGATTGGAGCGGGATTACCGATTGTGATTACTCCATCT 2994
2995 AA 788 Hi	AAGCTCTATTTGAATGAGTTGCGTCCTTTCGTGCAAGCTGAGTTTTCTTATGCCGATCAT 3054
3055 GA 808 A8	
3115 CT	CTATCAGTICCTGTIGGAGIGAAGITIGAICGAIGTICTAGIACACATCCTAATAAAIAT 3174

649 ACTGITTIAGGGAGAGACACTCGITGACITTCGAGAACATACCGACTTCTACAAATGGG 708		AACAATGTTGCTTCTCCTGTTTACATTGCTGCTAAGCAACCAAC	1531 TCGGTTGCTAACTGTGGCCCTGTACAATTTTTAAGGAATATCGCTAATGAT 1581 1511 TCGGTTGCTAACTGTGGCCCTGTACAATTTTTAAGGAATATCGCTAATGAT 1581 291 AlaLeuSerSerGlyGlyPheThrGluPheLeuArgAsnaNvalSerSerAlaThrPro 310 1582GGTGGACCGATTTATTAGGAGAATCTGGAGAGCTCAGTTTATCGCTGATTATTGGA 1638 311 LysGlyGlyAla1leSerIleAspAlaSerGlyGluLeuSerLeuSerAlaGluThrGly 330 1639 GATATTATTTCGATGGGAATCTTAAAAGAACGCCAAAGAGAATGCTGCCGATGTTAAT 1698 11 LysGlyGlyAla1leSerIleAspAlaSerGlyGluLeuSerLeuSerAlaGluThrGly 330 1639 GATATTATTTCGATGGGAATCTTAAAAGAACGCCAAAGAGAAATAACGATTAAT 1698 11 AshileThrPheValArgAshThrLeuThrThrThrGlySerThrAsp 346 1699 GGCGTAACTGTGCTCCACAAGCCATTTCGATGGGAACAATAA 1758
B & B & B & B & B & B & B & B & B & B &	8 8 8 8 8 8 8 8 8	8 5 8 5 8 5 8 5	6 8 6 8 6 8 6
	RESULT 12 H86546 polymorphic outer membrane protein G family [imported] - Chlamydophila pneumoniae (strail c)species: Chlamydophila pneumoniae, Chlamydia pneumoniae C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae C;Date: 02-Mar-2001 S;Accession: H86546 K;Shiral, M:/ Hirakawa, H:/ Kimoto, M:/ Tabuchi, M:/ Kishi, F./ Ouchi, K./ Shiba, T./ Is Nucleic Acids Res. 28, 2311-2314, 2000 A;Title: Comparison of whole genome sequences of chlamydia pneumoniae J138. A;Reference number: A86491; MUD:20330349; PMID:10871362 A,Status: preliminary A,Molecule type: DNA A,Rasidues: 1-928 &RTO> A,Kasidues: 1-928 &RTO> A,Kasidues: 1-928 &RTO> A,Kasidues: 1-928 &RTO> A,Kasidues: 1-928 &RTO> A,Kasidues: 1-928 &RTO> A,Kasidues: 1-928 &RTO> A,Gene: pmp_11 C;Superfamily: Chlamydophila pneumoniae polymorphic outer membrane protein G	Alignment Scores: Pred. No.: 1090.00 Matches: Score: Best Local Similarity: 13.8 Mismatches: 13.	GGGGAACGTTAACTGTATCATTT

qa	364	Db 668	His?
ò	agagctaaagcagggcatcagattctctttaatgatcccatcgagatggcaaacggaaat 	889 qa	Asp(
අු	ArgalaalaLysAsnHisThrIlePhePheTyrAspProlle	Qy 2815	CAA
È	AACCAGCCAGCGCAGTCTTCCAAAAATTAACGATGGTGAAGGA	708	Ser!
g		Qy 2854	TTT
È	1870TACACAGGGATATTTTTTGCT	Db 728	3 Ala
a		Qy 2875	TTT
È	AATGGAAGCAGTACTTTGTACCAAAATGTTACGATAGGAGGAAGGA	Db 748	9 His
셤		Qy 2935	5 GAT
ò		99८ वव	B Ser
q		Qy 2995	5 AAG
ò	2005 TATATGGAAGCTGGGAGTACATGGGATTTTGTAACTCCACAACCACCACAACAGCCT 2061	788	8 His
đ	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Qy 3055	5 GAA
È		808 qa	8 Asn
Q		Oy 3115	5 CTA
È	2122 GCAAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGCGCAAGATTCTCATCCTGCA 2181	Db 828	8 Fer
đ	488 LeuLysGlnProVal	Qy 3175	5 AGC
È	2182 GTCATTGGTAGCACAACTGCTGGTTCTGTTACAATTAGTGGGCCTATCTTTTTTGAGGAT 2241	Db 848	8 Asp
đ	494 LeuthralaLysGlyalaSerAsnLysVallleValSerGlyLysLeuAsnLeulleAsp 513	Oy 3235	S CTC
È	ATGATACAGCTTATGATAGG		
g	llheuPhe	00 3295	5 GTG
ò	GGGACTAAGCCCCCCAGCT		8 ::
QQ	533 LeuLygileThrvalAspAlaAspValAspThrAsnValAspIleSer 548	Ov 3355	5 AG
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È	2398 AAGCTIGCGIGGGATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCTTGC 2457		
a	::: :::	13	
δ	2458 ACTAAAACTGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGTTTA 2517	D86546	,
7 8		C;Species: C	hlam
ì	25.9 SECTION OF THE S	C;Date: 02-M C;Accession:	D86
3 8		R;Shirai, M. Nucleic Acid	i Hii Is Rei
}		A; Title: Com A; Reference	numb
3 8		A; Accession: D86 A; Status: prelim	D86
Š	2638 GATGCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGTTATTCCTTAGGAGCAAACTCC 2697	A;Residues:	1-93
3 A		A;Cross-reterence A;Experimental se	al s
ò	2698 TACTTTGGATCATCGATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAA 2754	A;Gene: pmp 8	خ د_∞
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SATATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGTAGAGTCCCGG 3414
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                               ----TGTGGATCCTATTTGTTCGGAGATGCG 2853
                                                                                                                                                         TATC-----CGTGCTAGCTACGG 2874
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| nSerPhePheGluSerSerSerAspGlyArgGlyPheSerIleGlyArgLeuLeuAsn 827
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|SProLeuPheLysThrPheIleProGlnMetLysValGtuMetValTyrValSerGln 807
                                                  rHisThrLeuGlnProGlnAsnTyrLeuArgLeuGlyArgAlaLysPheSerGluSer 727
sThrProLysAspAspLeuPheThrPheAlaPheCysHisLeuPheAlaArgAspLys 687
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er membrane protein G family [imported] - Chlamydophila pneumoniae (stra mydophila pneumoniae, Chlamydia pneumoniae 12001 #sequence_revision 02-Mar-2001 #text_change 15-Jun-2001 16546

lirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, T.; I des. 28, 2311-2314, 2000 in the control of whole genome sequences of chlamydia pneumoniae J138.

ber: A86491; MUID:20330349; PMID:10871362

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DNA

30 <STO> ces: UNIPARC:UPI00001655FB; GB:BA000008; NID:g8978818; PIDN:BAA98654.1; source: strain J138

Chlamydophila pneumoniae polymorphic outer membrane protein G

	Best Local Similarity: Query Match:	23.3.0 28.4.8 13.78	Matches: Conservative: Mismatches: Indels:	1306 1406 202 202	
US-10-701	701-844-1 (1-4435)	5) x D86546 (1	-93	ì	
<i>≿</i> 8	382 ATGCAAAC ::: 1 MetLyBIl	GTCTTTCCATAAG: eProLeuHisLys1	ATGCAAACGTCTTTCCATAAGTTCTTTCTTTCAATGATTCTAGCT ::: 	ATGCAAACGTCTTTCCATAAGTTCTTTCTAATGATTCTAGCTTATTCTTGCTGCTCT :: 	TCT 441 Leu 19
à	442 TTAAATGO	GGGGGATATGCAC	CAGAAATCATGGTT	TTAAATGGGGGGATATGCAGCAGAATCATGGTTCCTCAAGGAATTTACGATGGG	GGG 498
a	20 Leuseril	eAlaThrTyrGly	laAspAlaSerLeuSer	LeuserilealathrfyrdlyAlaAspalaSerLeuserProthrAspSerPheAspdl	Ġly 39
<u>ک</u> ۾	499 GAGACGTT	AACTGTATCATTT(::: vSerThrPheThr	GAGACGTTAACTGTATCATTTCCCTATACTGTTATAGGAGATCCGAGTGGGA ::	GAGACGTTAACTGTTTCCCTATACTGTTATAGGAGATCCGAGTGGGACTACTGTT 	GTT 558 Tvr 58
े		AGGAGAGTTAACA	TAAAAATCTTGACAAT	TTTTCTGCAGGAGAGTTAACATTAAAAATCTTGACAATTCTATTGCAGCTTTGCCTTTA	
a	:: 59 ValLeuSe	:: erGlyAsnValTyr	::: ::: ::: ::: ::: ::: ::: ::::::::	 GlyThrAlaLeuThrGly	Gly 77
දු දි	619 AGTIGITI 78 CVRCVRP	TGGGAACTTATTAC - -	3GGAGTTTTACTGTTTTA 1 VARDLEUThrPheThr	AGTIGITITIGGGAACITATAGGGAGTITITACIGITITIAGGGAGAGGACACICGITGACI 	ACT 678 ::: Ser 97
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È	739 CTGTTTAC	TATTGAGGGTTTT	AAGAATTATCCTTTTCC	CTGTTTACTATTGAGGGTTTTAAAGAATTATCCTTTTCCAATTGCAATTCATTACTTGCC	BCC 798
Q Q	118 AlaLeuT	 rPheThrGlyPhe	AlaLeuThrPheThrGlyPheSerAsnLeuSerPhe		Ile 130
È	5	TGCTGCAACGACT	gtactgcctgctgcaacgactaataagggtagccagactccgacgacaaca- :::::	CCGACGACAACA	84
a	131 AlaAlaPi	oglyThrŤhrvali	AlaSerGlyLysserthr	aalaproglyThrThrValAlaSerdlyLysSerThrLeuSerSerAlaGlyAlaL	Leu 150
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송 셤	165	ATTCTATAGRANT SerAsn	AAGITCICATICTATAGATTTAGICTCTGAAAAATGAGAAAA SetAsnGluAlaAsnAsnGlyGlyA	CIAIAGAIGCIAA aileThrAlaLy	GAGC 969 ::: 8Thr 179
È	970 TTAACGG	TCAAGGAATTAGC	TTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAAAATACTG	GAAAATACTGCTCAAGCTGAT	GAT 1029
q	::::: 180 LeuSerI]	eSerGlyAsnThr	 SerSerIleThrPheTh	::::: ::: ::: LeuserlleserGlyAsnThrSerSerlleThrPheThrSerAsnSerAlaLysLysLeu	Leu 199
È	1030 GGGGGAGG	TTGTCAAGTAGTC	ACCAGITICICIGCIAIG	GGGGGGGGTTGTCAAGTAGTCACCAGTTTCTCTGCTATGGCTAACGAGGCTCCTATTGCC	10
q	200 GlýGlýAl	alleTyrSerSer	AlaAlaAlaSerIleSer	ĞİYGİYÂLELLETYESERSERALBALBASEKILESERGİYASNTHRGİYGINLEUVBİ	77
È	-	CGAATGTTGCAGGA(staagaggggaggatt 	tttgtagcgaatgttgcaggagtaagggggggggggttgctgctgctgatcaggatgggcag :::	11
g	220 PhemetAs	nAsnLysGly	Phemet AgnasnLys GlyGluThrGlyGlyGlyAlaLeuGlyPheGlu	LeuGlyPheGlu	235
È		GTCATCATCTACT	CAGGGAGTGTCATCTACTTCAACAGAAGATCCAGTAGTAAGTTTTT ::: :::	GTAAGTTTTTCCAGAAATA	H—
අ ,		-AlaSerSerSer	IleThrGlnAsnSerSer	-AlaSerSerIleThrGlnAsnSerSerLeuPhePheSerGlyAsnTh	r 252
중 음	1210 GCGGIAGAGI ::: 253 AlaThrAsp-	AGTTTGATGGGAAC :: BD	STAGCCCGAGTAGGAGG	GCGGTAGAGTTTGATGGGAACGTAGCCCGAGTAGGAGGGATTTACTCCTACGGGAA ::: A.athagad	MAC 1269 255
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ATTGCTGCTAAGCAACCAACAAGTGGACATCTAATACGAGTAATAATTACGGAGAT	ATGGCTAATGATGGGGGGTTTATTTAGGAGAATCTGGAGAG ArgCysGlyAsnThrala	TCTTCCAAACTTCTAAAAATTAACGATGGTGAAGGATACACAGGGGATATTGTTTTTGCT :::	GTAACTCCACAACCACCACAACAGCCTCCTGCCGCTAATCAGTTGATCACCTTTCCAAT MetGlnProdlyThrLysLeuLysAlaAspThrGlualalleSerLeuThrLys CTGCATTTGTTTGTTAGCAACAACAACTAGCTAACCAATCCTCCTACCAAT
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                                                                                                         TGG---GATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAA 2463
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||| GlyGlySerLeuAlaLeuTyrLeuProLysGluAlaProPhePheGlnGlyTyrPhePro
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563 ThrSerProValGlnThrProGluProHisTyrGlyTyrGlnGlyHisTrpGluAlaThr
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              ||| |||||:: ::: 543 ProLeuValValPheThrAlaAlaThrAlaAlaSerAspIleTyrIleAspAlaLeuLeu
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                                                    -AATGAGATGCCTAAGTATGGCTATCAAGGAAGCTGGAAGCTTGCG
-----CCAGCTAATGCCCCATCAGATTTGACTCTAGGG-
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polynorphic membrane protein G family CP0307 [imported] - Chlamydophila pneumoniae (str. polygocies: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004
R;Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey,
C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg,
Nucleic Acids Res .28, 1397-1406, 2000
A;Fitle: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39.
                                                                                                                                                                                                                                                                                                                                                  A,Accession: A01591
A;Status: preliminary
A;Status: preliminary
A;Residues: 1-930 <REA>
A;Residues: 1-930 <REA>
A;Cross-references: UNIPROT:Q9Z393; UNIPARC:UPI00001655FB; GB:AE002193; GB:AE002161; NII
A;Experimental source: strain AR39, HL cells
C;Genetics:
CIPACAAGIAATATAGAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCTCGA 3381
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C;Superfamily: Chlamydophila pneumoniae polymorphic outer membrane
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1975	AATTCTCTAAGTCAGACAGGTGGGAGTCTGTATATGGAAGCTGGGAGTACATGGGATTTT 2034
2035	GTAACTCCACAACCACCACAACAGCCTCCTGCCGCTAATCAGTTGATCACGCTTTCCAAT 2094
2095	CDGCATTTGTCTCTTCTTGTTAGCAAACAATGCAGTTACGAATCCTCCTACCAAT 2154
2155	CCTCCAGCGCAAGATTCTCATCCTGCAGTCATTGGTAGCACAACTGCTGGT 2205
2206	TCTGTTACAATTAGTGGGCCTATCTTTTTGAGGATTTGGATGATACAGCTTATGATAGG 2265
2266	TATGATTGGCTAGGTTCTAATCAAAAATCAATGTCCTGAAATTACAGTTAGGGCTAAG 2325 :::
2326	CCAGCTAATGCCCCATCAGAT
2362	ThrSerProValGlnThrProGluProHil 582
2407	766-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-
2464	ACTOGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGTTTATGGGGA 2523
2524	TCCATTTTAGATATACGATCTGCGCATTCAGCAAGTAGCAAGTGTGGATGGCGCTCT 2583
2584	TATTGTCGAGGATTATGGGTTTTCTGAAGTTTCGAATTTCTTTTTTATCATGACCGCGATGCT 2643
2644	TTAGGTCAGGGATATCGTATATAGTGGGGGTTATTCCTTAGGAGCAAACTCCTAC 2700
2701	TTTGGATCATCGATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAAGATTAT 2760
2761	GTAGTGTGTGTTCCAATCATGCTTGCATAGGATCGGTTTATCTATC
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499 GAGACGTTAACTGTATCCCTATACTGTTATAGGAGATCCGAGTGGGACTACTGTT 558 559 TTTTCTGCAGGAGAGTTAACATTAAAAATCTTGACAATTCTATTGCAGTTGCTTTA 618 559 TTTTCTGCAGGAGAGTTAACATTAAAAATCTTGACAATTCTATTGCAGCTTTGCTTTA 618 559 TTTTCTGCAGGAGAGTTAACATTAAAAATCTTGACAATTCTATTGCAGCTTTACTTTA 618 550 TTTTCTGCAGGAGAGTTAACATTAAAAATCTTGACAATTCTATTGCAGCTTTACTTTA 618 550 TTTTCTGCAGGAGAGTTAATTAAGGAGTTTAACTGTTTTAAGGAGAGAGA	
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-----MetGlnProGlyThrLysLeuLysAlaAspThrGluAlaIleSerLeuThrLys 490
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                         315 ArgCysGlyAsnThrAlaAlaGlyLysGlyGlyAlaIleAlaIleAlaAspSerGlySer 334
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---ATCGCTAATGATGGTGGAGCGATTTATTTTAGGAGAATCTGGAGAG
                                                                                                                                    335 LeuserLeuserAlaAsnGlnGlyAspIleThrPheLeuGlyAsn------
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                      2584 TATIGICGAGGATIATGGGTTTCTGGAGTTTCGAATTTCTTCTATCATGACCGCGATGCT 2643
                                                                                                              TITGGATCATCGATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAAGATTAT 2760
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|LeuSerProHigValGluLeuSerGlyGluAlaAlaTyrGluLeuArgGlySerAlaHis 918
SerPheThraspileArgThrLeuGlnGlnIleMetThrSerGlnAlaAsnSerIleTyr 638
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759 TyrThrSerTyrProGluAlaGlnGlySerTrpThrAsnAsnSerGlyAlaLeuGluLeu
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| 779 GlyGlySerLeuAlaLeuTyrLeuProLysGluAlaProPhePheGlnGlyTyrPhePro
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                                                                    2644 TTAGGTCAGGGATATCGGTATATTAGTGGGGGTTATTCCTTAGGAGCAAACTCCTAC---
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polymorphic outer membrane protein g family - Chlamydophila pneumoniae (strain CWL029) polymorphic outer membrane protein gramming CiSpecies: Chlamydophila pneumoniae, Chlamydola pneumoniae
CiSpecies: Chlamydophila pneumoniae, Chlamydia pneumoniae
CiSpecies: Charles 1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004
CiAccession: C72078
R;Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.;
Akture Genet. 21, 385-389, 1999
A;Title: Comparative genomes of Clamydia pneumoniae and C. trachomatis.
A;Reference number: A72000; MUID:99206606; PMID:10192388

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GIAACTCCACAACCACCACAACAGCCTCCTGCCGCTAATCAGTTGATCACGCTTTCCAAT 2094
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|LeuAlaValAsnLeuSerSerLeuAspGlyThrAsnLysAla-------
                                                                         275 ThrLeuThrGlyAsnLysAsnLeuSerPheThrAsnAsnAnThrAlaLeuThrTyrGlyGly
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A;Status: preliminary
A;Nolecule type: DNA
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Mismatches:
Indels:
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Matches:
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polymorphic membrane protein G family CP0308 [imported] - Chlamydophila pneumoniae (stra C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004 C;Accession: B81591 R;Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.P.; White, O : Hinkey
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A;Experimental source: strain AR39; HL cells
C;Genetics:
A;Gene: CP0308
C;Superfamily: Chlamydophila pneumoniae polymorphic outer membrane protein G
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A;Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39.
A;Reference number: A81500; MUID:20150255; PMID:10684935
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------PheThrGlyLyBGlnGlyGlyValValTyrAla-------
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                                                                                                                                                                  496 GGGGAGACGTTAACTGTATCATTTCCCTATACTGTTATAGGAGATCCGAGTGGGACTACT
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                                              ATGCAAACGTCTTTCCATAAGTTCTTTCTATCAATGATTCTAAGCTTATTCTTGCTGCTCT
                                                                                         1 MetLysSerSerValSerTrpLeuPhePheSerSerIleProLeuPheSerSerLeuSer
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C86546
polymorphic outer membrane protein G family [imported] - Chlamydophila pneumoniae cippecies: Chlamydophila pneumoniae, Chlamydia pneumoniae
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Cippecies: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
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A;Titlel: Comparison of whole genome sequences of chlamydia pneumoniae J138.
A;Accession: C86546
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A;CPCESSION: A;Residues: UNIPROT:Q9Z898; UNIPARC:UPI0000131CED; GB:BA000008; NID:g8978817; E
C;Genetics:
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| ArgArgAsnProLysCysGlnThrSerLeuIleAlaSerAspAlaAsnTrpMetAlaTyr
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/Superfamily: Chlamydophila pneumoniae
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1090 TITGIAGCGAATGITGCAGGAGTAAGAGGGAGGGATTGCTGCTGTTCAGGATGGGCAG 1149
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                                                                                                                                                                                                         GGGGGAGCTTGTCAAGTAGTCACCAGTTTCTCTGCTATGGCTAACGAGGCTCCTATTGCC 1089
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                                        175 IleSerLeu---SerLeuAsnProAsnLeuThrPheAlaLysAsnLysAlaThrGlnLys 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        289 GlyalaileTyrThrAspAsnLeuValLeuSerSerGlyGlyProThrLeuPheLysAsn 308
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            10 AAGTTCTCATTCTATAGTAATTTAGTCTCTGGAGATGGGGGAGCTATAGATGCTAAGAGC
                                                                                                            TTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAAATACTGCTCAAGCTGAT
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Delymorphic membrane protein G family CP0306 [imported] - Chlamydophila pneumoniae (stra Cippecies: Chlamydophila pneumoniae, Chlamydia pneumoniae, Cjbre: 23-Apr-1999 #text_change 09-Jul-2004 C;Accession: B72077; B81592 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004 C;Accession: B72077; B81592 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004 C;Accession: B72077; B81592 #sequence_revision C; Fan, J; Olinger, L.; Grimwood, J.; Nather Gence: 21, 385-389; J999 #A;Itle: Comparative genomes of Clamydia pneumoniae and C. trachomatis.

A;Reference number: A72000; MUD:99206606; PMID:10192388 A;Reference number: A72000; MUD:99206606; PMID:10192388 A;Reference: NIPROT:09296606; PMID:10192388 A;Residues: 1-928 ARN>
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|ThrileTyrAsnLeuThrGlyAspValSerIleThrAsnAla---GlySerProThrAla
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| TyrvalValGlyAlaThrThrThrLeuAlaSerAspAsnLeuIleThrAlaAlaPheCys
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               2269 GATTGGCTAGGTTCTAATCAAAAATCAATGTCCTGAAATTACAGTTAGGGACTAAGCCC
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| ProAlaAsn1leHis1leThrAspLeuAlaAspProLeuGluLysAsnPro1leHis
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polymorphic outer membrane protein G/I family [imported] - Chlamydophila pneumoniae (st. Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C; Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C; Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C; Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
R; Shirai, M.; Hirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, T.; I Nucleic Acids Res. 28, 2311-2314, 2000
A; Title: Comparison of whole genome sequences of chlamydia pneumoniae J138.
A; Reference number: A86491; MUID:20330349; PMID:10871362
A; Accession: B86546
A; Accession: B86546
A; Accession: B86546
A; Residues: 1-928 < ATO>
A; Rixperimental Source: strain J138
A; Rixperimental source: strain J138
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TATTGTCGAGGATTATGGGTTTCTGGAGTTTCG 2616 -----GGATACACAGGGATATTGTTTTTGCT 1893
|-----GATACACAGGGATATTGTTTTTGCT 1893
A8nProAlaTyrGlnGlyThr11eValPheSer 419 AATGTCCTGAAATTACAGTTAGGGACTAAGCCC 2328 ACT-----CTAGGGAATGAGATGCCTAAG 2376 GCGTGGGATCCTAATACAGCAAATAATGGTCCT 2436 ACTOGGTATAATCCTGGGCCTGAGCGAGTAGCT 2496 TCCATTTTAGATATACGATCTGCGCATTCAGCA 2556 3GCGIAACTGTCTCTCACAAGCCATTTCGATG 1731 TTAAGAGCTAAAGCAGGCATCAGATTCTCTTT 1788 AATAACCAGCCAGCGCAGTCTTCCAAACTTCTA 1848 ATTGTTCTTCGTGAAAAGGCAAAATTATCAGTG 1974 CCTCCTGCCGCTAATCAGTTGATCACGCTTTCC 2091 GAGGATTTGGATGATACAGCTTATGATAGGTAT 2268 GATATTATTTCGATGGGAATCTTAAAAGAACA 1671 ------AATGGAAGCAGTACTTGTAC 1914 TTAGCAAACAATGCAGTTACGAATCCTCCTACC 2151 GCAGTCATTGGTAGCACAACTGCTGGT----TCT 2208 |||||||::: | AlaGluAlaAspAsnLeuLysSerThrIleGln 439 ---CTGTATATGGAAGCTGGGAGTACATGGGAT 2031 ||||||| |AspileThrPheGluGlyAsn-----Thr 345 ||||||||||| LeuArgAlaSerGlnGlyAsnThrlleTyrPhe 383 ::: ThrSerIleThrAlaAlaLeuSerAspAlaLeu 399 ::: |||::: LeuSerLeuLysSerGlyValThrLeuValAla 459 ||||||:::::: ||| ::: :::||| ||| ||| AlaThrLeuLysAlaThrGlnAlaSerGlnThr 512 ValAspProSerGlyAsnValTyrGluAspVal 532 ---PheSerCysLeuThrLeuThrAlaAspAsp 549 AlaAlaAspProLeuGluLysAsnProlleHis 569

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UNIPARC:UPI0000131CEC; GB:BA000008; NID:98978816; PI
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          A,Molecule type: DNA
A,Residues: 1-1276 <STO>
A,Cross-references: UNIPROT:Q92899;
A,Experimental source: strain J138
C,Genetics:
A,Gene: pmp_6
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Nucleic Acids Res. 28, 2311-2314, 2000
A;Title: Comparison of Whole genome sequences of chlamydia pneumoniae J138.
A;Reference number: A86491; MUID:20330349; PMID:10871362
A;Accession: B86546
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                             AATTICTICIATCATGACCGCGATGCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGT
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1630 GATTATGGAGATATTATTTTGGATGGAAA'	GATTATGGAGATATTATTTTCGATGGGAATCTTAAAGAACAGCCAAAGAGAATGCTGCC 1689
1690 GATGTTAATGGCGTAACTGTGTCCTCACA	GATGTTAATGGCGTAACTGTGTCCTCACAAGCCATTTGGATGGGATCGGGAGGAAATA 1749
1750 ACGACATTAAGAGCTAAAGCAGGCATCA	ACGACAITRAGAGCTAAAGCAGGGATCAGATTCTCTTTAATGATCCCATCGAGATG 1806
1807GCAAACGGA	IleGluG
1816AATAACCAGCC 	
1858 GATGGTGAAGGATACACAGGGGATATTGT 750 ProAlaAsnProAsnThrGlyThrIleVa	GATGGTGAAGGATACACAGGGGATATTGTTTTT
1891GCTAATGGAAGCAGTAC ::::: 770 AlaSerlleProAlaAsnThrThrThrTl	GCTAATGGAAGCAGTACTTTGTACCAAAATGTTACGATAGAGCAAGGA 1938
1939 AGGATTGTTCTTCGTGAAAGGCAAAATT 	AGGATTGTTCTTCGTGAAAAGGCAAAATTATCAGTGAATTCTCTAAGTCAGACAGGTGGG 1998 :::
1999 AGTCTGTATATGGAAGCTGGGAGTAC	AGTCTGTATATGGAAGCTGGGAGTACATGGGATTTTGTAACTCCACAACCACCACAA 2055
2056 CAGCCTCCTGCCGCTAATCAGTTGATCAC ::: 827ABNThrAspGlySerileAs	AGTIGATCACGCTTTCCAATCTGCATTTGTCTCTTTCTT 2115
2116 THGTTAGCAAACAATGCAGTTACGAATCC	TIGITAGCAAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGCGCAAGATTCTCAT 2175
2176 CCTGCAGTCATTGGTAGCACAACTGCTGG ::: :::	CCTGCAGTCATTGGTAGCACTGCTGGTTCTGTTACAATTAGTGGGCCTATCTTTTT 2235
2236 GAGGATTTGGATGATACAGCTTATGATAG ::: :: 870 HisAsnAsnGluGlySerPheTyrAspAs	GAGGATTTGGATGATGACTTATGATAGGTATGATTGGCTAGGTTCTAATCAAAAATC 2295
2296 AAIGICCIGAAATTACAGTIAGGGAC :: 887 AsnLeubroPheLeuAspLeuSerSerTh	AATGTCCTGAAATTACAGTTAGGGACTAAGCCCCCAGCTAAT
2338GCCCCATCAGATTTGACTCTAGGGAA	-GCCCCATCAGATTTGACTCTAGGGAATGAGATGCCTAAGTATGGCTATCAAGGAAGC 2394
2395 TGGAAGCTTGCGTGGGATCCTAATACAGC	TGGAAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACA 2454
2455 TGGACTAAAACTGGGTATAATCCTGGGCC	TGGACTAAAACTGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGT 2514
2515 TTANGGGATCCATTTTAGATATACGATC	TTARGGGGATCCATTTTAGATATACGATCTGCGCATTCAGCAATTCAAGCAAG
2575 GGGCGCTCTTATTGTCGAGGATTATGGGT	GGGCGCTCTTATTGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTCTTCTATCATGAC 2634

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UNIPARC:UP10000131CEC; GB:AE002193; GB:AE002161; NII
HL cells
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A;Reference number: A81500; MUID:20150255; PMID:10684935
A;Accession: C81591
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-127 DNA
A;Cross-references: UNIPROT:Q92899; UNIPARC:UPI0000131CEC
A;Experimental source: strain AR39, HL cells
                                                                                                                                                         Length:
Matches:
Conservative:
Mismatches:
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Best Local Similarity:
Query Match:
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A, Gene: CP0309
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R;Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.B.; White, O.; Hickey, C.; Dodon, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg, Nucleic Acids Res. 28, 1397-1406, 2006
A;Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39.
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       GTTTGGGAATCAGCATATGAAAACCTCATATACATTTGCAGAGGAGGGGATGTTCGTTG 2933
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C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004
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nValSerIleProMetGlyLeuThrPheLysHisGluSerAlaLysProProSerAlaLe
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                                                 2635 CGCGATGCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGTTATTCCTTAGGAGCAAAC
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1156 nLysGlyPheGlnGluValAlaAlaAspProArgIlePheAspAlaSerHisLeuValAs
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                                                                 2695 TCCTACTTTGGATCATCG---ATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGATCT
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00047086; GB:AE001627; GB:AE001363; NIF

A;Title: Comparative genomes of Clamydia pneumoniae and C. trachomatis. A;Reference number: A72000; MUID:99206606; PMID:10192388 A;Accession: B72078 A;Atstus: pretiminary A;Molecule type: DNA A;Residues: 1-1407 <arn> A;Residues: 1-1407 <arn> A;Experimental source: strain CWL029 A;Experimental source: strain CWL029 A;Genetics: A;Genetics: A;Gene: pmp_6</arn></arn>	Alignment Scores: 3.5e-60 Length: 1407 Pred. No.: 3.5e-60 Matches: 334 Score: 334 Percent Similarity: 40.3% Conservative: 150 Best Local Similarity: 27.8% Mismatches: 440 Query Match: 27.8% Indels: 277 DB: 2 Gaps: 40 US-10-701-844-1 (1-4435) x B72078 (1-1407)	376 TGTGTGAAGGTCTTTCCATAAGTTCTTTCAATG ::: ::: 299 CystyrLeualaThrAapLysThrGlyLeualaIleSerGlnAsnGlnGluMet	33	Qy 475 GTTCCTCAAGGAATTTACGAIGGGGAGACGTTAACTGTATCATTTCCCTATACTGTTATA 534 :::	OY 535 GGAGATCCGAGTGGACTACTGTTTTTTCTGCAGGAGAGTTAAAAAAATCTTGAC 594	OY 595 AATTCTATTGCAGCTTTGCCTTTAAGTTGTTTTGGCAACTTATTAGGGAGTTTTACTGTT 654	Oy 655 TTAGGGAGACACTCGTTGACTTTCGAGAACATACGGACTTCTACAAATGGGGCAGCT 714	Qy 715 CTAAGTAATAGCGCTGCTGATGGACTGTTTACTATTGAGGGT 756	Qy 757 TTTAAAGAATTATCCTTTTCCAATTGCAATTACTTGCCGTACTGCCTGC	Qy 817 ACTAATAAGGGTAGCCAGACTCCGACGACAACATCTACACGTCTAATGGTACTATTAT 876	Oy 877 TCTAAAACAGATCTTTTGTTACTCAATAATGAGAAGTTCTCATTCTATAGTAATTTAGTC 936	OY 937 TCTGGAGATGGGGGGGGGTTGAGGGTTAACGGTTCAAGGAATTAGCAAGCTT 996	Qy 997 TGTGTCTTCCAAGAAATACTGCTCAAGCTGATGGGGGGAGCTTGTCAAGTAGTCACC 1053	Qy 1054 AGTITCTCTGCTATGGCTAACGAGGCTCCTATTGTAGCGAATGTTGCAGGAGTA 1113
Qy 2575 GGGCGCTCTTATTGTCGAGGTTTCTGGAGTTTCGAATTTCTTCTATCATGAC 2634 bb 981 AspAlaProSerHisProGly1leTrpIleGlydlyIleGlyAsnAlaPheHisGlnAsp 1000 Qy 2635 CGCGATGCTTAGGTCAGGGATATCAGTGGGGGGTTATTCCTTAGGAGCAAAC 2694 c::	Db 1021 MetThrThrProGlnGluTyrThrPheAlaValAiaPheSerGlnLeuPheGiyLysSer 1040 2752 AAAGATTATGTAGTGTGTCCAATCATCATGCTTGCATAGGATCCGTTTATCTATC		Qy 2874 GTTTGGGAATCAGCATATGAAAACCTCATATACATTTGCAGAGAGAG	Qy 2934 GGATAATAACTGTCTGGCTGGAGACATTGGGGGATTACCGATTGTGATTGTCATC 2993	Qy 2994 TAAGCTCTATTTGAATGAGTTGCTCCTTTCGTGCAAGCTGAGTTTTCTTATGCCGATCA 3053 :	Oy 3054 TGAATCTTTTACAGGAAGGCGATCAAGCTCGGCCATTCAAGAGCGGACATCTCCTAAA 3113	Qy 3114 TCTATCAGTTCCTGTTGGAGTGAAGTTTGATCGATGTACTAGTACACATCATAAATA 3173	Qy 3174 TAGCTTTATGGGGGCTTATATCTGGACCTTATCGCACCATCTCTGGTACTGAGACAAC 3233	Qy 3234 GCTCCTATCCCATCAAGAGACATGGACAACAGATGCTTTCATTTAGCAAGACATGGAGT 3293	Qy 3294 TGTGGTTAGAGGATCTATGTATGCTTCTGTAAGTAATATAGAAGTATATAGGCCATGG 3353	Qy 3354 AAGATATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGTAGAGTCCG 3413	Qy 3414 GTTC 3417	RESULT 23 B72078 polymorrhic outer membrane protein q/i family - Chlamydophila pneumoniae (strain CWL029)	2004 L.; Grimwood, J

TCATGACCGCGAT 2640 : |||::: sGlnAspLysGln 1133 AAAAATCAATGTC 2301 :::|||::: aAsnLeuAsnLeu 1019 AGGAAGCTGGAAG 2400 TGTGGATGGGCGC 2580 TAGATCTAAAGAT 2757 |:::|||||||||| yLysSerLysAsp 1173 r----- 2865 1890 SCAAGGAAGGATT 1944 AGGTGGGAGT--- 2001 rcrrcrrgerra 2121 ITCICATCCTGCA 2181 CTTTTTGAGGAT 2241 : ||| ::: uLysPheHisAsn 1002 ------GCC 2340 oPheAsnProlle 1039 AGCTACATGGACT 2460 ||| |AlaGluTrpGln 1073 :::: aMetSerAspAla 1113 TCTATCTACCCAA 2817 LeuCysAlaGln 1191 ACCACAACAGCCT 2061 ||| nProAspSerThr 942 | :::||| uAspalaLeuAsp 976 ||| aGlyGlyAsnVal 922 756 ----- 957 ::: ovalAlaProAla 882 rGlnAspAlaSer 902 ----- 982

Db 1192 SerSer-TyrValIleProLeuHisSerSerLeuArgArgHisValLeuSerLysValLe 1211	ą	22
Qy 2866AGCTACGGGTTTGG 2879	ð	979 CAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAATACTGCTCAAGCTGATGGGGGAGCT 1038
Db 1211 uProGluLeuProGlyGluThrProLeuValLeuHisGlyGlnValSerTyrGlyArgAs 1231	셤	23 ThrdlythrThrMetSerAlaLeuPheSerGluAenThrSerSerLyBLyBGlyGlyAla 42
Qy 2880 GAATCAGCATATGAAAACCTCATATACATTTGCAGAGAGAG	È	1039 TGTCAAGTAGTCACCAGTTTCTCTGCTATGGCTAACGAGGCTCCTATTGCCTTTGTAGCG 1098
::: ::: Db 1231 nHisHisAsnMetThrThrLysLeuAlaAsnAsnThrGlnGlyLysSerAspTrpAspSe 1251	ą	43 IleGlnThrSerAspAlaLeuThrIleThrGlyAsnGlnGlyGluValSerPhe 60
OY 2940 TAACTGTCTGGCTGGAGAATTGGAGCGGGATTACGATTGTGATTACTCCATCTAAGCT 2999	ò	1099 AATGITGCAGGAGTAAGAGGGAGGGATTGCTGCTGTTCAGGATGGGCAGCAGCAGGAGTG 1158
Db 1251 rHisSerPheAlaValGluValGlyGlySerLeuProValAspLeuAsnTyrAr 1269	qq	09 09
STGCAAGCTGAGTTTTCTTATGCCGATCATG	ò	1159 TCATCATTCAACTGAAGAAGATCCAGTAGTAAGTTTTTCCAGAAATACTGCGGTAGAG 1218
Db 1269 gTyrLeuThrSerTyrSerProTyrValLysLeuGlnValValSerValAsnGlnLysG1 1289	qq	61 SerAapAsnThrSerSerAapSer
CY 3060 TITTACAGAGGGAATCAAGCTCGGGGATTCAAGAGGGGACATCTCCTAAATCTATC 3119	ŏ	1219 TTTGATGGGAACGTAGCCCGAGTAGGAGGATTTACTCCTACGGGAACGTTGCTTTC 1278
Db 1289 yPhcGlnGluValAlaAspProArgIlePhcAspAlaScrHisLeuValAsnValSe 1309	qq	69
TTCCTGTTGGA	ò	1279 CTGAATAATGGAAAAACCTTGTTTCTCAACAATGTTGCTTCTCCTGTTTACATTGCTGCT 1338
:: laLysProPro	qq	81 SerAsnAsnAlaLysValSerPhelleAspAsn91
Qy 3180 TATGGCGGCTTATATCTGTGATGCTTATCGCACCATCTCTGGTACTGGACACGCTCCT 3239	ò	1339 AAGCAACCAACAAGTGGACAGGCTTCTAATACGAGTAATAATTACGGAGATGGAGGAGCT 1398
Db 1329 uThrLeuGlyTyrAlaValaspAlaTyrArgAspHisProHisCysLeuThrSerLe 1348	qq	
CCCATCAAGAG	ò	
Db 1348 uThrAsnGlyThrSerTrpSerThrPheAlaThrAsnLeuSerArgGlnAlaPheAl 1368	QQ	
QY 3300 TAGAGGATCTATGTATGCTTCTCTAACAAGTAATATAGAAGTATATGGCCATGGAAGATA 3359	È	GGAGAGGGATTTTCTTTAGTAGCAATGTAGCTGGGAAAGGGGGAGCTATTAT
Db 1368 aGlualaSerGlyHisLeuLysLeuLeuHisGlyLeuAspCysPheAlaSerGlySerCy 1388	q	143
F=	à i	1519 GCCAAAAAGCTCTCGGTTGCTAACTGTGGCCCTGTACAATTTTTAAGGAATATCGCTAAT 1578
Db 1388 gGluLeuArgSerSerSerArgSerTyrAsnAlaAsnCysGlyThrArgTyrSerPhe 1407	8	Vallysbysbeugtuneuatasergtygtyreunnineermesetatygasmogtvannen
RESULT 24 H86492	8 1	
Pmp_3 [imported] - Chlamydophila pneumoniae (strain J138) C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae On War John Manamana amisian On War John Heart Change 09-711-2004	8 8	
manye or our zor.	3 E	
I, f.; Olcii, A.; Siiba, I.;	8 8	
330349; PMID:10871362	7 A	::: ::: 201 ThrProGlyThrAsnArgSerSer1leAspLeuGlyThrSerAla 215
A;Status: preliminary A;Molecule type: DNA	ò	1744 AAAATAACGACATTAAGAGCTAAAAGCAGGCATCAGATTCTCTTTAATGATCCCATCGAG 1803
A;Residues: 1-772 <sto> A;Cross-references: UNIPROT: Q9RB71; UNIPARC: UPI00000CCC33; GB:BA000008; NID: 98978389; PI</sto>	QQ	::: ::
A,Experimental gource: gtrain J138 C;Genetics:	ò	1804 ATGGCAAACGGAAATAACCAGCGCAGTGCTTCCAAACTTCTAAAATTAACGATGGT 1863
A;Gene: pmp_3_2	ор	236 ThrGlySerSerThrThrValThrAspValLeuLysValAsnGluThr 251
ent Scores: 2.05e-59 Length:	È	1864 GAAGGA
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Dolymorphic outer membrane protein g family - Chlamydophila pneumoniae (strain CWL029) oblymorphic outer membrane protein g family - Chlamydophila pneumoniae (species: Chlamydophila pneumoniae, Chlamydophila pneumoniae (cjoate: 23-Apr-1399 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004 (cjoate: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004 (cjoate: 21, 385-389, 1999 MyTitle: Comparative genomes of Clamydia pneumoniae and C. trachomatis. AjReference number: A72000; MUID:99206606; PMID:10192388 AjReference number: A72000; MUID:99206606; PMID:10192388 AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: AjReference number: 
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                                                                                                                                                                  pTyralaAsnPheProMetValLysAsnSerTrpArgAsnAsnCysTrpAlaIleGluCy
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                                                                                                                                                                                                                                                                                                                                                                                                                    3321 TCTAACAAGTAATATAQAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCTCG
                        TGGATCATCGATGTTT----GGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAAGATTA
                                                        -----GlySerTyrLeuTyrGlnTyrThrThrSerLeuGlyAsnIlePheArgTy
                                                                                                                        2862 TGCTAGC-----
                                                                                                                                      710 ralaSerArgAsnProAsnValAsnValGlyIleLeuSerArgArgPheLeuGlnAsnPr
                                                                                                                                                       --TACGGGTTTGGGAATCAGCATATGAAAACCTC
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RESULT 26
RE6491
Polyworthic outer membrane protein G family [imported] - Chlamydophila pneumoniae polyworthic outer membrane protein G family [imported] - Chlamydophila pneumoniae C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Date: 02-Mar-2011 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: E86491
Nucleic Acids Res. 28, 2311-2314, 2000
A;Fithe: Comparison of whole genome sequences of chlamydia pneumoniae J138.
A;Reference number: A86491; MUID:20330349; PMID:10871362
A;Accession: E86491
A;Reference number: Drelimiary
A;Molecule type: DNA
A;Residues: 1-922 <STO>
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1194 TTTTTCCAGAAATACTGCGGTAGAGTTTGATGGGAACGTAGCCCGAGTAGGAGGAGGAT 1253

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A;Cross-references: UNIPROT:Q9Z9G5; UNIPARC:UPI000004708A; GB:BA000008; NID:g8978378;
A;Experimental source: strain J138
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TATAGATGCTAAGAGCTTAACGGTTCAAGGAATTAGCAAGCTTTGTGTGTCTTCCAAGAAAA 1013
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alleSerGlyAlaAsnValThr11eValGlyAsnTyrAspSerValSerPheTyrGlnAs 188
                                                                                                                                                                                                                                                                                                                                                                      TCAAGGAAITITACGAIGGGGAGACGITAACIGIAICATITICCCIAIACIGITAIAGGAGA 539
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C;Superfamily: Chlamydophila pneumoniae polymorphic outer membrane protein
                                                                                                                                                                                                                                                                                                            TCTAGCTTATTCTTGCTGCTCTTTTAAATGGGGGGGGATATGCAGCAGAAATCATGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                         TATTGCAGCTTTGCCCTTTAAGTTGTTTTTGGGAACTTATAGGGAGTTTTTACTGTTTTAGG
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rSerGlyProLeuGlnIleAlaValAsnGlnAlaGluIleArg-
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3306
3386
353
35
                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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973.00
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28.0%
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Best Local Similarity:
Query Match:
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CGCACCATCTCTGGTACTGAGACAACGCTCCTATCCCATCAAG	дg	
Db 850 pllePheArgLysAspProSerCysGluAlaAlaLeuVallleSerGlyAspSerTrpLe 870	È	774 TICCAATIGCAAITCATTACTIGCCGTACTGCCTGCTGCAACGACTAATAAGGGTAGCCA E
Qy 3261 AACAGATGCCTTTCATTTAGCAAGACATGGAGTTGTGGTTAGAGGATCTATGTATG	q	128 e11eGl
Db 870 uValProAlaAlaHieValSerArgHiBAlaPheValGlySerGlyThrGlyArgTyrHi 890	È	834 GACTCCGACGACAACATCTACACCGTCTAATGGTACTATTTATT
Qy 3321 TCTAACAAGTAATATAGAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCTCG 3380	qq	
Db 890 sPheAsnAspTyrThrdluLeuLeuCysArgdlySerIleGluCysArgProHisAlaAr 910	È	894 GITACTCAATAATGAGAAGTICTCATICTATAGTAAITTAGTCTCTGGAGATGGGGGGGG 5
3381	q 0	
Db 910 gasnTyrAsnIleAsnCysGlySerLysPheArgPhe 922	ò	954 TATAGATGCTAAGAGCTTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAAA 1
RESULT 27 F81539	qq	168 aileserGlyAlaAsnValThrIleValdlyAsnTyrAspSerValSerPheTyrGlnAs
>-	8 f	1014 TACTGCTCAAGCTGATGGGGAGCTTGTCAAGTAGTCACCAGTTTCTCTGCTATGGCTAA 1
10-01	9)
R;Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg,	È	1074 CGAGGCTCCTATTGCCTTTGTAGCGAATGTTGCAGGGGAAGGGAGGG
Nucleic Acids Res. 28, 1397-1406. AyItitle: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39. A.Reference number: A81500, MUID:20150255, PMID:10664935	සි දි	198 rSerGlyProLeuGlnIleAlaValAsnGlnAlaGluIleArg 1 1134 rGTTCAGGATGGGCAGGAGGAGGTCATCATCTACTTCAACAGAAGATGTCAGTAAG 1
A/Accession: Fe1539 A/Acatus: preliminary	q	212
A;Molectue Vype: Jura A;Residues: 1-922 «REA» A;Cross-references: UNIPARC:UPI000016560D; GB:AE002237; GB:AE002161; NID:97189684; PIDN:	ठे व	TITITCCAGAAATACTGCGGTAGAGTTTGATGGGAACGTAGCCCGAGT
A) EXPETIMENTAL BOUTCE: BITAIN AK39, HL CELLB C) Genetics:	g .	
A;Gene: CP0770 C;Superfamily: Chlamydophila pneumoniae polymorphic outer membrane protein G	දි සි	1254 TTACTCCTACGGGAACGTTGCTTTCCTGAATATGGAAAAACCTTGTTTCTCAACAATGT 1 226 uTyrSerAspGjyAspTleAspTleAspGlnAshAlatyrValleuPheArgGluAshG1 2
1ignment Scores: 7.02e-59 Length:	ð	
ttive:	q	246 uAlaLeuThrThrAlaIle2
122.3	È	TAATAATTACGGAGATGGAGGAACTATCTTCTGTAAGAATGGTGCGCAAGCAGG
US-10-701-844-1 (1-4435) x P81539 (1-922)	요 8	253GlyLysdlydlyAlaValCysCys
Qy 375 ITGTGTGAAACGTCTTTCCATAAGTTCTTTCAATGAT 419	S 8	oThrSerGlySerSerThrProvalProIl
420 TCTAGCTTATTCTTGCTGCTCTTTAAATGGGGGGATATGCAGCAGAAATCATGGTTCC	රි සි	1476 CTTTAGTAGCAATGTAGCTGCTGGGAAAGGGGAAGCTATTTATGCCAAAAAGCTCTCGGT 1
Db 22 ThrSerLeu-SerAleThrThrileSer	8 8	
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540 TCCGAGTGGACTACTGTTTTTCTGCAGGAGATTAACATTAAAAAATCTTGACAATTC	පි සි	1581 TGGTGGAGCGATTTATTTAGGAGAATCTGGAGAGCTCAGTTTATCTGCTGATTATGGAGA 1
Db 51 -GlnAlaGlyAspValTyrSerLeuThrGlyAspValSerIleSerAsnValAspAsnSe 70 600 TATTGCAGCTTTGCCTTTAAGTTGTTTTGGGAAACTTATTAGGGAGTTTTTACTGTTTTTAGG 659	Š	1641 TATTATTTTCGATGGGAATCTTAAAAGAACAGCCAAAGAGAATGCTGCCGGTGTTAATGG 1
70 rAlaLeuAsnLysAlaCysPheAsnValThrSerGlySerValThrPheAlaGl	qq	
660 GAGAGACACTCGTTGACTTTCGAGAACATACGGACTTCTACAAATGGGGCAGC 	රි සි	1701 CGTAACTOTGTCCTCACAAGCATTCGATGGGATCGGGAGGGAAATAATAAGATTAAG 1
Db 88 yAsnHisHisGlyLeuTyrPheAsnAsnIleSerSerGlyThrThrLysGluGlyAlaVa 108 Qy 714 TCTAAGTAATAGCGCTGCTGATGGACTGTTTACTATTGAGGGTTTTAAAGAATTATCCTT 773	ò	1761 AGCTAAAGCAGGCATCAGATTCTCTTTAATGATCCCATCGAGATGGCAAACGGAAATAA 1

370) nalaargasnGlyTyrSerIleGluPheTyrAspProIleGATGGTGAAGGATA 384 CCAGCCAGCGCAGCTCTTCTAAAATTAACGATGGTGAAGGATA 1871	\$ 6
384		8 8
1872	2 CACAGGGGATATTGTTTTTGCT	음 &
902	CAGTACTTTGTACCAAAATGTTACGATAGAGGATGGTTCTTCGTGAAAAGGC 1961 	÷ 6
1962	AAAATTATCAGTGAATTCTCTAAGTCAGACAGGTGGGAGTCTGTATATGGAAGCTGG	දු දි
444	4 aGluValThrValSerLy8PheThrGlnSerProGlySerHisLeuValLeuAspLeuGl 464 9 cachacanggganthrGhaachcCacaaccaccacaacaaccaccacaacaaccacaacaac	ð.
464		ය දි
2079	GATCACGCTTTCCAATCTGCATTTGTCCTTTCTTTGTTAGCAAAAAAAA	දි සි
473	3 DITEATALIENTETYLEUATALIEABDILEABDSEKLEU	Š
487	::: ::: :::	음 ;
2199	9 TGCTGGT TCTGTTACAATTAGTGGGCCTATCTTT 2232 	음 중
499	ralaasniysginileservalthraspserilegiu	8
2233	-TTTGAGGATTTGGATGATACAGCTTATGATAGGTATGATTGGCTAGGTTCTAATCAAAA :::	qa
519	9 alyrdludspleudrg	ò
530	rpheproLeuLeuSerLeuGluproGlyAlaGlySerValThrVa	අ
2352		δ ^Q Ω
546	6 lihraladiyaspPheLeuProValSerProHisTyrdlyPhedinGlyAsnTrpLysLe 566	ò
2403	3 IGCGIGGGAICCTAATACAGCAAATAAIGGICCITATACICTGAAAGCIACAIGGACTAA 2462 uAlaIrpThrGlyThrGlyBanLy8ValGlyGluPhePheTrpAspLy 582	
2463	AACTGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAA	RESULT 28 B72130
582		C;Species
2523	3 ATCCATTTTAGATATACGATCTGCGCATTCAGCAATTCAAGCAAG	C; Accessic R; Kalman, Nature Ger
2583	TTATTGAGGATTATGGGATTTCTGGAAGTTTCGAATTTCTTCTATCATGACCGCGATGC	A;Title: (A;Reference
622	nThraspargGlyLeuTrp1leAspGlylleGlyAsnPhePheHisValSerAlaSerGl	A; Molecule
2643	TTTAGGTCAGGGATATCGG	A; Cross-1
642	uAspAsnIleArgTyrArgHisAsnSerGlyGlyTyrValLeuSerValAsn	R, Read, T
2703	3 IGGAICAICGAIGITIGGICTAGCAITTACCGAAGTAITIGGIAGAICTAAAGAITA 2759	
662	eThrProLysHisTyrThrSerMetAlal	A;Referen
2760	TGTAGTGTGTGTCCAATCATGCTTGCATAGGATCCGTTTATCTATC	A, Molecul
	682 ralaValSerAsnAsnGluTyrArgMetTyrLeu 693	i A;Cross-1

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3081 AGCTCGGGCATTCAAGAGCGGACATCTCCTAAATCTATCAGTTCCTGTTGGAGTGAAGTT 3140
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--GGAGATGCGTTTATCCG 2861
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850 pilePheArgiysAspProSerCysGluAlaAlaLeuValileSerGlyAspSerTrpLe 870
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                                                                                                                                                                                                                                                                                                                                                                                                      890 sPheAsnAspTyrThrdluLeuCysArgGlySerIleGluCysArgProHisAlaAr 910
                          694 ------GlySerTyrLeuTyrGlnTyrThrThrSerLeuGlyAsnIlePheArgTy 710
                                                                                                                                     710 ralaserargasnProasnValasnValGlyIleLeuSerargargPheLeuGlnAsnPr 730
                                                                                                                                                                                                                            730 oLeuMetIlePheHisPheLeuCysAlaTyrGlyHisAlaThrAsnAspMetLysThrAs 750
                                                                                                                                                                                   ------TACGGGTTTGGGAATCAGCATATGAAAACCTC
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                                                                                         2862 TGCTAGC------
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hic membrane protein G family CP0761 [imported] - Chlamydophila pneumoniae (str s: Chlamydophila pneumoniae, Chlamydia pneumoniae 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004 ion: E72130; G81541

. S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J. enet. 21, 385-389, 1999
Comparative genomes of Clamydia pneumoniae and C. trachomatis.
nce number: A72000; MUID:99206606; PMID:10192388
ion: E72130

ile type: DNA

set 1-841 - ARN3

references: UNIPROT:0923A1; UNIPARC:UPI00000470B5; GB:AE001586; GB:AE001363; NI

references: UNIPROT:0923A1; UNIPARC:UPI00000470B5; GB:AE001586; GB:AE001363; NI

mental source: strain CWL029

mental source: strain CWL029

ACI S. F.; Heidelberg, J.F.; White, O.; Hickey,
Acids Res. 28, 1397-1406, 2000

Acids Res. 28, 1397-1406, 2000

Acids Res. 28, 1397-1406, 2000

Acids Res. 28, 1397-1406, 2000

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Acids Res. 28, 1397-1406

Acids Res. 28, 1397-140

le type: DNA es: 1-841 <REA> references: UNIPARC:UPI00000470B5; GB:AE002235; GB:AE002161; NID:g7189672; PIDN

A, Experimental	tal source: strain AR39, HL cells	qq	207
C, Genetics: A, Gene: pmp_2,	CP0761	ò	1270 GTTGCTTTCCT
c;onpertame;	CILTAINYUODIITTA DIIGUINOITTAG POLYINOLDIITC OUCGI INGINAAMG PLOCGIII	qq	209 LeuThrLeuSe
Alignment scores Pred. No.:	1.19e-56 Length:	č	1330 ATTGCTGCTA
Score: Percent Sin	39.5% Conservative:	qa .	225
Duery Match:	SIMILATICY: 27.04 MINNACCHES: 550 1: 11.94 Indels: 291 2 Gars: 30	λö	1390 GGAGGAGCTA1
US-10-701-844-1	(1-4435) × R72130 (1-841)	qq	226
		ò	1450 TCCTTTGATG
, S &	BATTOCAAAGSICTITCCATAAGTICTITCATTCATTCAAGTITCTAAGTICTTAGTICTTAGTICTTAGTICTTAGTICTTAGTICTTAGTICTTAGTICTTAGTICTTAGTICTTAGTICTAGTIAGTICTAGTIAGTICTTAGTIAGTICTAGTIAGTIAGTIAGTIAGTIAGTIAGTIAGTIAGTIAGT	qq	227
	だれだがだが出れて、代目的自体をおけて、れたログンを出たくなれてはなってものできない。 ひょうしょうしょうしょうしょうしょうしょうしょうしょうしょうしょうしょうしょうしょ	ò	1510 GCTATTTATG
* S	##Z TIAAATGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	qu	230
	a comesa a mightan a minimic com a na comesa da micha a comesa da comesa a minimica de min	ò	1570 ATCGCTAATG
' }		qq	231
	TCTGCAGGAGTTAAAAAATCTTGACAATTCTATTGCAGCTTTGCCTTTAAGT	'n	1630 GATTATGGAG
		ପ୍ର	247 AspSerGlyAe
		È	1690 GATGTTAATG
}		QΩ	259 GlyAlaThrG
	Torred Carlos Anna Carlos Amenda Anna Carlos Amenda Anna Carlos An	à	1750 ACGACATTAAC
S 6	######################################	QΩ	278 ThralaLeuA
	IIII FIIGOGLABIII LGABDALGIIII LIILALGOGLGLYALGALGLIGGLYOGLGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGA	à	1810 AACGGAAATA
S 6	/33 GAIGGACIGITIACLATIGAGGGITIAANGANITALCCITICCANITGCANITGANITA /32 1:: 1::	QΩ	297 ThrGlySerT
	上したないなってもごしてたい	ò	1858GATGGTG
Š €		q	314 GlyAspAsnLy
		ò	1894
& A	853 ACACCGTCTAATGGTACTATTTTTTTTTTTTTTTTTTTT	qq	334 GluAlaLysA
	TTCTCATTCTATAGTAATTTAGTCTCTCTGGAGGAGGGGAGGTATAGATGCTAAGAG	ò	1936 GGAAGGATTG
	ValLeuIleGlnAspAsnPheSerThrGlyAspGlyGlyAlaIleAsnCysAlaGlySer	අ	
õ	970 TTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAAATACTGCTCAAGCTGAT 1029	Š i	
do do	::: 182 LeuLysile 184	වූ ර	
20	1030 GGGGGAGCTTGTCAAGTAGTCACCAGTTTCTCTGCTATGGCTAACGAGGCTCCTATTGCC 1089	∂	CAACAGCC
	185	셤	
, 6	1090 TTTGTAGCGAATGTTGCAGGAGTAAGAGGGGGAGGGATTGCTGCTGTTCAGGATGGGCAG 1149	Š	H-
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	1210 GCGGTAGAGTTTGATGGGAACGTAGCCCGAGTAGGAGGAGGATTTACTCCTACGGAAC 1269	È	
		අ	429 LeuAlaileS

STICTICGIGAAAAGGCAAAATTAICAGIGAATICTCTAAGICAGACAGGT 1995 CTGTATATGGAAGCTGGGAGTACATGGGATTTTGTAACTCCACAACCACCA 2052 GCAAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGGGGAAGATTCT 2172 GTCATTGGTAGCACAACTGCTGGTTCTGTTACAATTAGTGGGCCTATCTTT 2232 ATCTTCTGTAAGAATGGTGCGCAAGCAGGATCCAATAACTCTGGATCAGTT 1449 BATGGTGGAGCGATTTATTTAGGAGAATCTGGAGAGCTCAGTTTATCTGCT 1629 BADATTATTCGATGGGAATCTTAAAAGAACAGCCAAAGAATGCTGCC 1689 AGAGCTAAAGCAGGGCATCAGATTCTCTTTAATGATCCCATCGAGATGGCA 1809 AACCAGCCAGCGCAGTCTTCCAAACTTCTAAAATTAAC------ 1857 ------AATGGAAGCAGTACTTTGTACCAAAATGTTACGATAGAGCAA 1935 SCHGCCGCTAATCAGTTGATCACGCTTTCCAATCTGCATTTGTCTTTTTT 2112 TTGGATGATACAGCTTATGATAGG-------TAT 2268 AGGAACCAACAAGTGGACAGGCTTCTAATACGAGTAATAATTACGGAGAT 1389 SGAGAGGAGTATTTCTTTAGTAGCAATGTAGCTGCTGGGAAAGGGGGA 1509 SCCAAAAAGCTCTCGGTTGCTAACTGTGGCCCTGTACAATTTTTAAGGAAT 1569 TGAATAATGGAAAAACCTTGTTTCTCAACAATGTTGCTTCTCCTGTTTAC 1329 ::: ||| LeuSerAlaAlaThrAlaGlnLy8AspIleArglleAspArgProValVal 428 ----LysAsn 208 ------AlaAlaGlyLys----- 230 ---GlyGlyAlaileAlaileAlaAspSerGlyThrLeuSerileSerGly 246 |||||| ::: |||||| || ||| ||||||||| ::: || ArgAlaAlaGlnGlyHisThrIleTyrPheTyrAspProlleThrVal--- 296 ThrservalalaAspala-----LeuasnileAsnSerProAspThr 313 AspGluLysAsnArgThrSerLysLeuLeuGlnAsnValAlaPheLysAsn 353 |||||||:: ValLeuLysGlyAspValValLeuSerAlaAsnGlyPheSerGlnAspAla 373 |||:::::: ||| |SerAspGluSerPheTyrGlnAsnGlyPheLeuAsnGluAspHisSerTyr 448 AsnGlyLysLyslys1le-----------prothr-----

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2269 GATTGGCTAGGTTCTAATCAAAAATCCATGAAATTACAGTTAGGGACTAAGCCC 2328	2449 GCTACATGGACTAAAACTGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTG 2502	ValProAsnLeuLeuTrpGlySerPheIleAspValArgSerPheGlnAsnPheIleGlu GCAAGTGTGGATGGGCGCTCTTATTGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTC I::	2623 TTCTATCATGACCGCGATGCTTAGGTCAGGGATATTAGTGGGGGGTTATTCC 2682 ::: 553 LeuhisArgSerGlyArgGluAsnGlnArgLysPheArgHisValSerGlyGlyAlaVal 572 2683 TTAGGAGCAAACTCCTACTTTGGATCATCGATGTTGGTCTAGCATTTACCGAAGTA 2739	::: ::::: 573 ValGiyalaSerThrArgMetProGiyGiyAspThrLeuSerLeuGiyPheAlaGinLeu 592 2740 TTTGGTAGATCTAAAGATTATGTAGTGTCGTTCCAATCATCATGCTTGCATAGGATCC 2799 	2800 GTTATCTATCTACCCAACAAGCTTTATGTGGATCCTATTTGTTCGGAGATGCG 2853 :::	2854 TTTATCCGT 2862 ::: 633 GlyLeuArgGluIleLeuLeuProTyrValSerLysThrLeuProCysSerPheTyrGly 652	2863GCTAGCTACGGGTTTGGGAATCAGCATATGAAACCTCATAT 2904 	2905ACHTTTGCAGAGAGAGAGTTTCGTTGGGATAATAACTGTCTGGCTGG	2962 GGAGCGGGATTACCGATTGTGATTACTCCATCTAAGCTCTATTGAATGAGTTGCGTCCT 3021	3022 TICGIGCAAGCIGAGTITICTIAIGCCGAICAIGAATCITITACAGAGGAAGGAGGAICAA 3081 ::: :::	3082 GCTCGGGCATTCAAGAGCGGACATCTCCTAAATCTATCAGTTCCTGTTGGAGTGTAT 3141 1::	3142 GATCGATGTTCTAGTACACATCCTAATAAATATAGCTTTATGGCGGCTTATATCTGTGAT 3201 ::::::	3202 GCTTATCGCACCATCTCTGGTACTGAGACAACGCTCCTATCCAAGAGACATGGACA 3261 ::: 770 ValCy8ArgSerAsnProLy8CysThrThrThrLeuLeuSerAsnGlnGlySerTrpLy8 789
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Jumorphic membrane protein G family TC0267 [imported] - Chlamydia muridarum (atrain Nispecies: Chlamydia muridarum, Chlamydia trachomatis MoPn
Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004
Accession: F81721
C: Dodson, R: Gwinn, M.; Nelson, W.; DeBoy, R.; Heidelberg, J.F.; White, O.; Hickey, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg acleic Acids Res. 28, 1397-1406, 2000
Julie: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39.
Recession: F81721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Molecule type: DNA
Residues: 1-867 <TET>
Cross-references: UNIPROT:Q9PL41; UNIPARC:UPI00005786B; GB:AE002294; GB:AE002160; NI
Experimental source: strain Nigg (MoPn)
Genetics:
                                                                                   3322 CTAACAAGTAATATAGAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCTCGA 3381
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110 AspCysSerSer
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       553 ACTGTTTTTTCTGCAGGAGAGTTAACATTAAAAATCTTGACAATTCTATTGCAGCTTTG 612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             613 -------CCTTTTAAGTTGTTTTTGGGAACTTATTAGGAGTTTTACTGTTTTA 657
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                                                                                                             433 TGCTGCTCTTTAAATGGGGGGGATATGCAGCAGAAATCATGGTTCCTCAAGGAATTTAC 492
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42 ValCysThrPheLeuGluAspCysThrMetGluAsnPheSerProAlaLeuLeuSerHis 61
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75 ------HisasnTrpPheValSerAsnLeuHisProSerThrAsnGluGluArgPhe 91
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                           867
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Matches:
Conservative:
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Indels:
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1936	GGAAGGATT ::: GlyCysLeu
1996	GGGAGTCTGTATATGGAAGCTGGGAGTACATGGGATTTTGTAACTCCACAACCACCA 2052 ::
2053	CAACAGCCTCCTGCCGCTAATCAGTTGATCACGCTTTTCCAATCTGCATTTGTCTTTTCT 2112
2113	
2173	CATCCTGCAGTCATTGGTAGCACAACTGCTGGTTACAATTAGTGGGGCCT 2226
2227	
2272	TGGCTAGGTTCTAATCAAAAAATCAATGTCCTGAAATTACAGTTAGGGACTAAGCCC 2328
2329	CCAGCTAATGCCCCATCAGATTTGACTCTAGGGAATGAGATGCCTAAGTATGGCTATCAA 2388
2389	GGAAGCTGGAAGCTTGCGTGGATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAA 2448
2449	-
2509	AATAGTTTATGGGGATCCATTTTAGATATACGATCTGCGCATTCAGCAATTCAAGCAAG
2569	GTGGATGGGCGCTCTTATHGTCGAGATTATGGGTTTCTGGAGTTTCGAATTTCTTCTAT 2628
2629	CATGACCGCGATGCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGGTTATTCC 2682
2683	
2740	TTTGGTAGATCTAAAGATTATGTAGTGTGTGCGTTCCAATCATCATGCTTGCATAGGATCC 2799
2800	GTTTATCTACCCAACAAGCTTTATGTGGATCCTATTTGTTCGGAGATGCGTTTATC 2859
2860	CGTGCTAGCTACGGGTTTGGGAATCAGCATATGAAACCTCATATACATTTGCAGAG 2916 :::
2917	GAGAGCGATGTTCGTTGGGATAATAACTGTCTGGCTGGAGAGATTCGAGCGGGATTACCG 2976

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GAGATGGCAAACGGAAAT 1818 ::: ::::::::::::::::::::::::::::::	GATGGTGAAGGATACACAGGG 1878 SerProThrProAlaThrAla 382		IlePheSerSerGluArgLeu 402	AATGGAAGCAGTACTTTGTACCAAAATGTTACGATA 1929	TCAGTGAATTCTCTAAGTCAG 1989	 SerAlaProSerLeuSerGln 442			CAGTTGATCACGCTTTCCAATCTGCATTTGTCT 2106 LeuLysThrSerSerSerAspLeuLysThatGatta	CCTACCAATCCTCCAGGGAA 2166	474	TCTGTTACAATTAGTGGGCCT 2226	ServalThrileHisAlaPro 485	GATGATACAGCTTATGATAGG 2265	AspGluAsnPheTyrGluAsn 505			GOGGANICAGATICAGANIA 23/9	ACAGCAAATAATGGTCCTTAT 2439		GGGCCTGAGCGAGTAGCTTCT 2499	HisProdluArgginSerThr 576				GGGATATCGGTATATTAGTGGG 2673	::: ::: AsnTrpHisHisArgSerLeu 636	ATCGARGITINGTCTAGCALTT 2730	MisserPheCysieuAlaAla 656	CGTTCCAATCATGTTGC 2790
GCTAAAGCAGGCATCAGATTCTCTTTAATGATCCCATCGAGATGGCAAACGGAAAT :::	AACCAGCCAGCGCAGTCTTCCAAACTTCTAAAAATTAACGATGGTGAAGGATACACAGGG		SerProLeuVallleGlnThrSerAlaAsnArgSerValllePheSerSerGluArgLeu	SerGluGluGluLysThrP		::: :::	ACAGGTGGGAGTCTGTATATGGAAGCTGGGAGTACATGGGATTTTGTAACTCCACAA		CCACCACACACCTCCTGCCGCTAAT		ThrLeuSerileProfeuHisSerLeu	GATTCTCATCCTGCAGTCATTGGTAGCACAACTGCTGGTTCTGTTACAATTAGTGGGCCT			AsnieuSerileGlnLysilePheleuSerAsnSerGlyAspGluAsnPheTyrGluAsn	TATGATTGGCTAGGTTCTAATCAAAAATCAATGTCCTGAAATTACAGTTAGGGACTAAG		CCCCCAGGIAAIGCCCCATTAGATTIAACICIAGGGAATIGAGATGAGATAI :::::::::::::::::::::::::::::::::::			ACTCTGAAAGCTACATGGACTAAAACTGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCT		TIGGTICCAAAIAGTITAIGGGGATCCAITITAGAIAIACGAICTGCGCAITCAGCAAIT		AMCAMOISIGGAIGGGCCCICITATIGCCGAGATTATGGCCAATA ASTThrIleAlaHisGlyGlyAlaTyrLeuPheGlyThrTrpGlySerAlaValSerAsn	TTCTTCTATCATGACCGCGATGCTTTAGGTCAGGGATATCGGTATATTAGGG			GlyTyrLeuPheGlyIleSerThrHisSerLeuAspAspHisSerPheCysLeuAlaAla	2731 ACCGAAGTATTTGGTAGATCTAAAGATTATGTAGTGTGTCGTTCCAATCATCATGCTTGC
344	1819	1879	383	1894	1930	423	1990	4. 4.	2047	2107	466	2167	475	2227	486	2266	906	522	2380	540	2440	557	2500	77.5	597	2620	617	2674	637	2731
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2791 ATAGGATCCGTTTATCTATCTACCCAACAAGCTTTATGTGGATCCTATTTGTTCGGAGAT 2850
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830 MetalaAsnLeuAspSerArgAlaTyrMetPheArgLeuThrAsnGlnArgAlaLeu--- 848
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---ThrThrSerTyrIleAlaThrValGlnAlaGlnLeuAlaThrProLeuMet---Lys
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polymorphic outer membrane protein G family [imported] - Chlamydophila pneumoniae (strai C;Species: Chlamydophila pneumoniae, C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 17-May-2002 C;Accession: E86492

Rishitai, M.; Hirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, T.; Is Nucleic Acids Res. 28, 2311-2314, 2000
A;Title: Comparison of whole genome sequences of chlamydia pneumoniae J138.
A;Reference number: A86491; MUID:20330349; PMID:10871362
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-712 <STO>
A;Residues: 1-712 <STO>
A;Residues: UNIPARC:UPI0000165697; GB:BA000008; NID:g8978386; PIDN:BAA98223.1; CASCOSE-references: UNIPARC:UPI000165697; GB:BA000008; NID:g8978386; PIDN:BAA98223.1; CASCOSE-references: Grain J138

Genetics:

A, Gene: pmp 2_1 C, Superfamily: Chlamydophila pneumoniae polymorphic outer membrane protein

712 246 109 304 320 Length: Matches: Conservative: Mismatches: Indels: 2.23e-40 703.00 36.3% 25.1% 8.9% Percent Similarity: Best Local Similarity: Query Match: Alignment Scores: Pred. No.:

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Query Match:
DB:
                  Alignment Scores:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTGAGTTTTCTTATGCCGATCATGAATCTTTACAGAGGAA---------3072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             637 IleLeuLeuPro-----TyrValSerLysThrLeuProCysSerPheTyrGlyGln 653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---CTAMATCTATCAGTTCCTGTTGGAGTGAAGTTTGATCGATGTTCTAGTACACAT 3162
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                                                                                                                                                                                                                                                TTCTATCATGACCGCGATGCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGTTATTCC
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-----GlnHisAspAlaSerLeuTyrSerValVal-----
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                                                           GTTCCAAATAGTTTATGGGGATCCATTTTAGATATACGATCTGCGCATTCAGAATTCAA
                                                                                                                                                                                                                                                                                                                      TTAGGAGCAAACTCCTACTTT----GGATCATCGATGTTTTGGTCTAGCATTTACCGAAGTA
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)Gene: pmp 14
)Superfamily: Polymorphic membrane protein H family
GlyLysTrpThrIleAsnTrpSerThrAspAspLys-
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1173 AACAGAAGATCCAGTAGTAAGTTTTTCCAGAAATACTGCG---GTAGAGTTTGATGGGAA 1229
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172 pSerLeuThrValGluAsnIleSerGlnSerIleLysPhePheGlyAsnLeuAlaAsnPh 192
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-----SerAlalleSerSe 198
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                                                                                                                                                                                                                                                                  165 AGAAATCATGGTTCCTCAAGGAATTTACGATGGGGAGACGTTAACTGTATCATTTCCCTA
                                                                                                                                                                                                                                                                                                        ------AlaSerCys-AlaPheAlaGl
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                                                                                                                                                                                                                                                                                                                                                                                                                               585 AAATCTTGAC------AATTCTATTGCAGCTTTGCCTTTAAGTTGTTTTGGGAA
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                                                                                                                                                                                  CTITICITICAATGATTCTAGCTTATTCTTGCTGCTCTTTAAATGGGGGGGATATGCAGC
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288
149
419
44
                                      Conservative:
Mismatches:
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104 sAsnPheSerSerIleAsnPheThr-
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ACATCTCTAAATCTATCAGTTCC 3125 AGTATTTGGTAGATCTAAAGATTA 2759 ATCCGITTATCIATCTACCCAACA 2819 :::|||||| ::: UGlnMetTyrLeuLeuSer---- 765 GATTACTCCATCTAAGCTCTATTT 3005 TTATGCCGATCATGAATCTTTAC 3065 ------3164 ATCTGCGCATTCAGCAATTCAA-- 2562 ATTATGGGTTTCTGGAGTTTCGAA 2618 GGATAATAACTGTCTGGCTGGAGA 2957 TTATACTCTGAAAGCTACATGG-- 2457 ----TCCTTAGGAGCAAACTCCTA 2699 -----GATGC 2852 TCAGCATATGAAAACCTCATAT-- 2904 GCTAATGCCCCATCAGATTTGAC 2354 SCCTGAGCGAGTAGCTTCTTTGGT 2504 ::::||| uLeuThrArgProLeuAlaGlnAl 839 uGlyGlyTrpGlnSerLysPheTh 859 :::: nAlaPheSerAspIleLeuGlnAs 685 |||| |/LeuSerileThrAla----- 698 rValGluHisThrProArgGlnGl 712 :::||| nalaalaLeuSerMetAsn---Ty 731 olleValThrGlnLysSerGluAl 779 |||::: ||||:::||| BASDHisLeuASDThrThrTyrLe 799 | ||||||| pHisAsnAsnSerTyrTyrValLe 819 pPheThrProPheLysLysAlaPr 894 ||||||| ||| ABSTThrLeuTyrAlaValTrpAs 645 oglyglulleAlaThrProSerHi 605 ArgProLeuLeulleProAlaPr 625

GGGTTTTAAAGAATTATCCTTTTCCAATTGCAATTCATTACTTGCCGTACTGCCTGC	142 gValAlafyrSerProAlaSerValThrFhrserAlaThrProAl 157 993 GCTTTGTCTCTCAAGAAATACTGCTCAGCTGAGGGGGGGG	138 SerGlyCysIleIlePheThrAlaAsmSerCysValAsmSerLeubysGlyValThrPr 258 137 AACAAGTGGACGCTTCTAATACGAGATAGACGAGTAATACGAGATGGACGCTTCTTG 1406
5 6 5 6 5 6 5	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 5 8 5 8 5 8 5 8 5 8 5 8
Qy 3165 TAATAAATATAGCCTTTATGCCGGCTTATATCTGTGATGCTTATCGCACCATCTCTGGTAC 3224 Db 894 OSerThrLeuthrIleLysLeulalTyrLysProAspIleTyrArgalAsnProHisAs 914 Qy 3225 TGAGACAACGCTCCTATCCCATCAAGAGACATGGACACAGATGCCTTTCATTTAGCAAG 3284 Db 914 nileValthrValValSerAsnGlnGluSerThrSerIleSerGlyAlaAsnLeuArgAr 934 Qy 3285 ACATGGAGTTGGAGACTATGGAGATTAGAGATTATAGAATATAGAAGATATA 3344 Qy 3345 TGGCCATGGAAGATATCGAGATCTCTCTGAGGCTATGGTTTGAGTGCAGGAAG 3404 C 1	Cy 3405 TAGAGTCCGGTTC 3417 :::	C. Superfamily Polymorphic membrane protein family Alignment & Cores

3066 AGAGGAAGGCGATCAAGCTCGGGCATTCAAGAGCGGACATCTCCTAAATCTATCAGTTCC 3125 TGTTGGAGTGAAGTTTGATCGATGTTCTAGT--------ACACATCC 3164 3225 TGAGACAACGCTCCTATCCCATCAAGAGACATGGACAACAGATGCCTTTCATTTAGCAAG 3284 3285 ACATGGACTTGTGGTTAGAGGATCTATGTATGCTTCTCTAACAAGTAATATAGAAGTATA 3344 3345 TGGCCATGGAAGATATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAG 3404 2958 GATTGGAGCGGGATTACCGATT-----GTGATTACTCCATCTAAGCTCTATTT 3005 3006 GAATGAGTTGCGTCCTTTCGTGCAAGCTGAGTTTTCTTATGCCGATCATGAATCTTTAC 3065 3165 TAATAAATATAGCCTTTATGGCGGCTTATATCTGTGATGCTTATCGCACCATCTCTGGTAC 3224 2905 -----ACATITGCAGAGAGAGCGAIGTIGGGAIAATAACIGICIGGCIGGAGA 2957 2700 CITIGGAICAICGAIGITIGGICIAGCAITIACCGAAGIAITIGGIAGAICIAAAGAITA 2759 879 ollediy------CysserserGinTrpPheThrProPheLysLysAlaPr 894 2853 GTTTATC-----CGTGCTAGCTACGGGTTTGGGAATCAGCATATGAAAACCTCATAT--766 -------PhephedlyGlnPheProlleValThrGlnLysSerGluAl 2820 AGCITIAIGIGGAICCIAIIIGIICGGA-----GAIGC 3405 IAGAGICCGGTIC 3417 974 uLysSerThrPhe 978 3126 894

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polymorphic membrane protein H family CP0298 [imported] - Chlamydophila pneumoniae (str C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Spaces: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004
C;Date: 31-Mar-2000 #sequence revision 31-Mar-2000 #text_change 09-Jul-2004
R;Read, T.D; Brunham, R.C; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg Nucleic Acids Res. 28, 1397-1406, 2005
A;Reference number: A81500; MUID:20150255; PMID:10684935
A;Accession: B81593
A;Accession: B81593
A;Molecule type: DNA

1230 CGTAGCCCGAGTAGGAGGGATTTACTCCTACGGGAACGTTGCTTTCCTGAATAA 1286 218 nPheThrSerSerGlyGlyGlyGalileTyrGlyGlySerSerLeuLeuPheGluAsnAs 238 1287 TGGAAAACCTTGTTTCTCAACAATGTTGCTTCTCTGTTTACATTGCTGCTAAGCAACC 1346 238 nSerGlyCysileIlePheThrAlaAsnSerCysValAsnSerLeuLysGlyValThrPr 258 1347 AACAAGTGGACAGGCTTCTAATAGGAGAATAATTACGGAGATGGAGGAGCTATCTTCTG 1406 1::	233 77hrProAsnAspAlsGluLeuLyslandsGluGlybysCysThiPheserTyzAsnGl 1933 1467 AGTAGTTTCTTAAGAATGTAGCAATGTAGCAAAAGAGGAGGATTATAGCAAAA 1526 133 77hrProAsnAspAlsGlyAlalleTyzAlaGluThrCysAsnIleValGlyAsnGluGl 133 1467 AGTAGTTTCTTAAGAGAATGTAGCAATGTAGCAAAAGAGGAGGATTATAGCAAAA 1526 133 7ACAGATTATTAGGAATGTAGCAATGTAGATGAATATTAAGAAATGAAATGAATG
8 8 8 8 8 8 8	6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8
ross-references: 1-978 «REA» Tross-references: UNIPROT:Q92895; UNI Sxperimental source: strain AR39, HL. Fenetics: Fenetics: 100296 Superfamily: Polymorphic membrane pro Superfamily: Polymorphic membrane pro Gument Scores: 6.19e-40 63. No.: 657.00 reent Similarity: 38.88 Fit Local Similarity: 25.58 Bry Match:	Gaps: TAGCTTATTCTTGCTGCTCTTTA TAGCTTATTCTTGCTGCTCTTTA TAGGAATTTACGATGGGAGACG TAGGAATTTACGATGGTTTTTCT TAGGAATTTACGATGCTTTTTTCT TAGGAATTTACGATGCTTTTTTCT TAGGATTTAGGACTACTGTTTTTTCT TAGGATTTAGGACTACTGTTTTTTCT TAGGATTTAGGAGAGACACTTCCTTTCTTTTTTTTTT

;		Db 859 rGluî
g	AlaservalAsnalaGlyinrLysAsnvalinrLeurnrGlyAlaLeuvalLe	Qy 3126 TGTTC
È	GCTTATGATAGGTATGATTGGCTAGGTTCTAATCAAAAAT 	Db 879 oile
ą a	560 uAspGluHisAspValThrAspLeuTyrAsp 570	Oy 3165 TAAT
ò	2295 CAAIGICCIGAAAITACAGITAGGGACTAAGCCCCCAGCTAAIGCCCCAICAGAITIGAC 2354	894
qq	571	3225
È	2355 TCTAGGGAATGAGATGCCTAAG	410
qq	:: 585 eLysGlyAlaThrValThrLysThrGlyPheProAspGlyGluIleAlaThrProSerHi 605	3285
ò	2377 - TATGGCTATCAAGGAAGCTGGAAGCTTGCGTGGGAT	934
đ	605 sTyrGlyTyrGlnGlyLysTrpSerTyrThrTrpSerArgProLeuLeulleProAlaPr 625	33.45
ò	2413CCTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACATGG 2457	954
qq	625 oAspGlyGlyPheProGlyGlyProSerProSerAlaAsnThrLeuTyrAlaValTrpAs 645	3405
ò	2458ACTABABCTGGGTATABTCCTGGGCCTGAGCGATAGCTTCTTTGGT 2504	974
q	645 nSerAspThrLeuValArgSerThrTyrIleLeuAspProGluArgTyrGlyGluIleVa 665	26 4.11.12
È	2505 TCCAAATAGTTTATGGGGATCCATTTTAGATATACGATCTGCGCATTCAGCAATTCAA 2562	
q		C;Species: Chlamyd C;Date: 31_Mar=200
È	GCTCTTAT	C, Accession: F8172
qa		C.; Dodson, R.;
ઠે	2619 TTTCTTCTATCATGACCGCGATGCTTTAGGTCC	Nucleic Acids Kes. A;Title: Genome se
: A		A;Reference number A;Accession: F8172
.	ATATCGGTATATTAGTG	A;Status: prelimin A;Molecule type: D
: 名		A;Residues: 1-976 A;Cross-references
ò	2700 CTTTGGATCATCGATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAAGATTA 2759	A; Experimental sou C; Genetics:
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È	2760 TGTAGTGTGTCCAATCATCATGCTTGCATAGGATCCGTTTATCTATC	Alignment Scores: Pred. No.:
අු	::: ::: 750AlaAsnProTyrAspSerArgCysSerGluGlnWetTyrLeuLeuSer 765	Score: Percent Similarity
ò	2820 AGCTTTATGTGGATCCTATTTGTTCGGAGATGC 2852	Query Match:
ą		DB: 115-10-201-044-1 (1
ò	2853 GTTTATCCGTGCTAGCTAGGGTTTGGGAATCAGCATATGAAAACCTCATAT 2904	
q	779 aLeulleSerTrpLysAlaalaTyrGlyTyrSerLysAsnHisLeuAsnThrThrTyrLe 799	33
Š	GCGATGTT	57.3
q	799 WArgProAspLysAlaProLysSerGlnGlyGlnTrpHisAsnAsnSerTyrTyrValLe 819	3 6
ò	2958 GATTGGAGCGGGATTACCGATTGTGATTACTCCATCTAAGCTCTATTT 3005	100
đ	819 ulleSerAlaGluHisProPheLeuAsnTrpCysLeuLeuThrArgProLeuAlaGlnAl 839	73
ò	3006 GAATGAGTIGCGICCITICGIGCAAGCIGAGITITCITAIGCCGATCATGAAICITITAC 3065	736
đ	839 aTrpAspLeuSerGlyPhelleSerAlaGluPheLeuGlyGlyTrpGlnSerLysPheTh 859	: : Db 93 GlyI
ò	3066 AGAGGAAGGCGATCAAGGCTTCAAGAGGGGACATCTCCTAAATCTATCAGTTCC 3125	DDD 964 KO

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rane protein E/F family TC0261 [imported] - Chlamydia muridarum (strain
7dia muridarum, Chlamydia trachomatis MoPn
700 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                undam, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, G. Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg B. 28, 1397-1406, 2000 sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39. er: A81500; MuID:20150255; PMID:10684935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGAGTTGTGGTTAGGATCTATGTATGCTTCTCTAACAAGTAATATAGAAGTATA 3344
                                                                                                                                                                                                                                                                                   CCATGGAAGATATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAG 3404
                                                                                          TAAATATAGGCTTTATGGCGGCTTATATCTGTGATGCTTATCGCACCATCTCTGGTAC 3224
                                                                                                                                                         GACAACGCTCCTATCCCATCAAGAGACATGGACAACAGATGCCTTTCATTTAGCAAG 3284
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ThrGlyAspLeuGlnArgSerPheSerArgGlyLysGlyTyrAsnValSerLeuPr 879
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rGluGlyAlaAlaPheThrValThrAspTyrLeuGlyPheSerAspThrGlnLysAsp
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GIACTGCCTGCTGCAACGACTAATAAGGGTAGCCAGACTCCGACGACAACATCTACA 855

414 AlaG	1858 GATG	434 GlyA	1918 AATG	454 ThrL	1978 TCTC	474 AsnP		494 GlnH		514 ValT	534 Prol	2194 ACAA	554 AspT	2248 GATA	574 AsnS	2308 TTAC	584 ArgA	2362 AATG	604 SerG	2398 AAGC	624 ThrT	2413 CCTA	644 ProI	2473 AATC	664 IleF	2533 GATP	2011 FOO	756 / 1617	10407	7155 / 497	722 H181	2098 IAC	/42 H187	2755 GAT ::: 762 Asn
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TCCTATTTGTTGGAGATGGGT Thirtysile	99 GAGARGARACGG 10 11 11 11 11 11 11
Matches: 260 Conservative: 155 Mismatches: 389 Indels: 205 Gaps: 43 ACTGTTTAGGGAGAGACACTCGTTGACTTTC 681 SerLeuThrGlyAspThTHisAsnLeuThrAsnCysTyrLeu 58	307 ABITYTGİYĞİYALATİFİ

AAAGAGAATGCTGCCGATGTTAATGGCGTAACTGTGTCCTCA	AAACTTCTAAAAATTAACGATGGTGAAGGATACACAGGGATATTGTTATTGCTAAT 1896 :::	ACGATAGAGGAAGGATGTTCTTCGTGAAAAGGCAAAATTATCAGTGAATTCTCTA 1983 : : :	ATCACGCTTTCCAATCTGCATTTGTCTCTTTCTTTGCAAACAATGCA 2133	611 TIPTHATIPGIYITPALALIYSTHICHNASPPROGLUPROALASERSERALATHETHE 630 2410 GATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAAACTGG 2469 [
				TrpThrTrpGlyTrpAlaly, TrpThrTrpGlyTrpAlaly, GATCCTAATACAGCAATAA AspProGlnLysAlaAsnAr, TATAATCCTGGGCCTGAGCG TyrValProSerProLysHi, ATTTTAGATATACGATCTGC ::: LeuLeuAlaThrGluberLe
Oy 1675 Db 363 Oy 1720 Db 383 Oy 1780 Db 403	Oy 1840 Db 416 Oy 1897 Db 436	Qy 1924 Db 456 Qy 1984 Db 476 Qy 2023 Db 496	Oy 2080 Db 506 Oy 2134 Db 526 Oy 2188 Db 544	 09 2410 09 2410 09 2470 09 651 09 2527 09 2587

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                                     2647 GGTCAGGGATATCGGTATATTAGTGGGGGTTATTCCTTAGGA------GCAAACTCC 2697
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691 Trp---Gly11eThrGlyGlyGlyLeuGlyMetMetValTyrGlnAspProArgGluAsn 709
                                                                                                                                                        917 ProSerSerArgHisAlaMetSerTyrLysIleSerGlnGlnThrGlnProLeuSerTrp 936
                                                           710 HisProGlyPheHisMetArgSerSerGlyTyrSerAlaGlyMetIleAlaGlyGlnThr
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polymorphic outer membrane protein B family [imported] - Chlamydophila pneumoniae (strai. C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004 C;Accession: F86548 T.; IS

Cjaccession: F86548
Rishirai, M.; Hirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, Nucleic Acids Res. 28, 2311-2314, 2000
A;Title: Comparison of Whole genome sequences of chlamydia pneumoniae J138.
A;Reference number: A86491; MUID:20330349; FMID:10871362

A; Accession: F86548

A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-938 <STOA;Cross-treferences: UNIPROT:Q92883; UNIPARC:UPI000004707C; GB:BA000008; NID:g8978836; PI
A;Experimental source: strain J138
C;Genetics:

A; Gene: pmp_15

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281	PheAsnAsnAsnGlnSerGlnSerAsnGlyGlyAlaIleHisAlaLysSerIleIle 299
1534	GTTGCTAACTGTGGCCCTGTACAATTTTTAAGGAATATGGCTAATGATGGTGGAGCGATT 1593 :::
6 6	TATTTAGGAGAATCTGGAGAGCTCAGTTATCTGCTGATTATGGAGAT 1641
320	16
3.4	26
1696	AATGGCGTAACTGTGTCCTCACAAGCCATTTCGATGGGATGGGATGGGAGGAAAATAACGACA 1755
357	ArgAsnAlaileHisSerThrProAsnMetAsnLeuGlnIleGly 371
1756	TTAAGAGCTAAAGCAGGGCATCAGATTCTCTTTAATGATCCCATCGAGATGGCAAACGGA 1815
31.21	18
386	
1876	GGGGATATTGTTTTTGCTAATGGAAGCAGTACTTTGTACCAAAATGTTACG 1926
1927	ATAGAGCAAGGAATGTTCTTCGT 1953
42	snPhePheSerTyrLeuArgAsnThr
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2014	GCTGGGAGTACAFGGGATTTTGTAACTCCACAACCACCACAACAGCCTCCTGCC 2067 :::
2068	GCTAATCAGTTGATCAGGTTTCCAATCTGCATTTGTCTTTTTTTT
482	ValGlySerThrIleThrLeuAsnHisIleAlaIleAspLeuProSerIleLeuSerPhe 501
2128	ATC
502	GlnAlaGlnAlaProLys1leTrp1leTyrProThrLysThr 515
2188	GGTAGCACA GlySerThrTyrThr
2236	GAGGATITGGATGATACAGCTTATGATAGGTATGATTGGCTAGGTTCTAATCAAAAA 2292
536	ArgAsnSerAsnAsnGluAs
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1440 ACTCTGAAAGCTACATGGACTAAAACTGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCT 2499
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A; Resid, T.D.; Brunham, R.C.; Shan, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg, Nucleic Acids Res. 28, 1397-1406, 2000
A; Fitle: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39.
A; Reference number: A81500; MUID: 20150255; PMID: 10684935
A; Accession: E81593
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A;Cross-references: UNIPARC:UP1000004707C; GB:AE002190; GB:AE002161; NID:g7189209; PIDN:.
A;Experimental source: strain AR39; HL cells
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	993 GCTTTGTGTCTTCCAAGAAATACTGCTCAAGCTGATGGGGAGCTTGTCA	0.00 0.00
	A81731 A81731 A81731 Polymorphic membrane protein D family TC0197 [imported] - Chlamydia muridarum (strain Ni polymorphic membrane protein D family TC0197 [imported] - Chlamydia muridarum (strain Ni c)species: Chlamydia muridarum, Chlamydia trachomatis MoPn C; Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004 C; Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004 C; Accession: A81731 Nucleic Acids Res. 28, 1397-1406, 2000 A; Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39. A; Accession: A81731 A; Accession: A81731 A; Accession: A81731 A; Accession: A81731 A; Accession: A81731 A; Accession: A81731 A; Accession: A81731 A; Accession: A81731 A; Accession: A81731 A; Accession: A81731 A; Accession: A81731 A; Accession: A81731 A; Accession: A81731 A; Accession: A81731 A; Accession: Accession:	Alignment Scores:

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sGlnAspValValThrProGluValValIleSerGlyAsnAspGlyAspValIlePheSe	TAGCAATGTAGCTGCTGGGAAAGGGGGGGGGG	CAAAAAGCTCTCGGTTGCTAACTGTGGCCCTGTACAATTTTTAAGGAATATCGCTAA	rginasnleuinfileserginasnasngluyasnyaileurneleursnyaevy Tgatggtggaggatttattattaggagaatctggagagctcagtttatctgctgattatgg	sSerGlyGlyAlavalargileGluAspHisGlyGluValLeuLeuGluAlaPheGlyGl	AGATATTATTTTCGATGGGAATCTTAAAAGAACAGCCAAAGAGAATGCTGCCGATGTTAA 	TGGCGTAACTGTGCCTCACAAGCCATTTCGATGGGATCGGGAGGAAATAACGAC	-GlySerAspAlaIleTyrPheAlaGlyLysAspSerArgIleLysAl	ATTAAGAGCTAAAGCAGGCATCAGATTCTCTTAATGATCCCATCGAGATGGCAAACGG	ATTAACGATGGTGAAGG	::: ::: - - - -	ATACACAGGGGATATTGTTTTTGCTAATGGAAGCAGTACTTTGTACCAAAATGTTACGAT	yTyrThrGlySerValArgPheLeuGlySerGluSerLysValProGlnTrplleH1sVa	AGACCAAGGA	-aggatngricircgrgaaaaggcaaaritaicagrgaatrcicaaa	naspProArgAlaLysIleValLeuSerAlaGlySerLysLeuLysIleLeuAspSerGl	TCAGACAGGTGGGAGTCTGTATATGGAAGCTGGGAGTACATGGGATTTTGTAACTCCACA	-	-CAACAGCCTCCTGCCGCTAATCAGTTGATCACGCT	uLysThrProSerLeuTrpIleGlyLysAsnAlaGlnAlaLysValProLeuValAspIl	TICCAAICIGCAITIGICICTITCTIGITAGCAAACAAGGGGTTACGAAICCICC : ::: :::	eHisThrileSerileAspLeuAlaSerPheSerSerLysAlaGinGluThrPro-	GGI	a T			INSCINITATION OF THE STATE OF T	-AAATTACAGTTAGGGACTAAGCCCCCCAGCTAATGC		AAGTP
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2445	GAAAGCTACATGGATATAATCCTGGGCTTGAGCTGGGTAGCTTCTTTGGT 2504
2505	TCCAAATAGTTTATGGGGATCCATTTTAGATATACGATCTGC 2546
2547	GCATTCAGCAATTCAAGCAAGTGTGGATGGGCGCTCTTATTGTCGAGGATTATGGGTTTC 2606 ::: ::::::::::::::::::::::::
2607	TGGAGTTTCGAATTTCTTCTATCATGACCGCGATGCTTTAGGTCAGGGATATCG 2660 :::
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74	ATCTAAAGATTATGTAGTGTCGTTCCAATCATCATGCTTGCATAGGATCCGT
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1156 GTGTCATCATCTACTTCAACAGAACATCCAGTAGTAAGTTTTTCCAGAAATACTGCGGTA			
Oy 3360 TGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGTACGTCCGGTTC::	Alignment Scores: Pred. No.: 609.0 Matches: 264 Score: 264 Score: 264 Score: 264 Score: 264 Score: 264 Score: 264 Score: 264 Score: 264 Score: 264 Score: 264 Score: 264 Score: 264 Score: 267 Score: 268 Scor	676 ACTITGAGAACATACGGACTTCTACAATGGGGCAGCTCTAAGTAATAGCGCTG 676 ACTITGAGAACATACGGACTTCTACAATGGGGCAGCTCTAAGTAATAGCGCTG 676PheProLeu -	916 TCATTCTATAGTAATTTAGTCTCTGGAGATGGGGGGGCTATAGATGCTGAGAGG 916 TCATTCTATAGTAATTTAGTCTCTGGAGATGGGGGGGGCTATAGATGCTGAGAGG 916 GTTCAAGGAATTAGCAGCTTTGTGTCTCCAAGAAAATACTGCTCAAGGTGATG 1016 GTTCAAGGAATTAGCAAGCTTTGTCTCCAAGAAAATACTGCTCAAGGTGATG 1016 GCTTGTCAAGGAAGTTATCTCTGCTATGGCTAAGGGCTCCTATTGCCT 1016 GCTTGTCAAGTAGTCACCAGTTTCTCTGCTATGGCTAAGGGGCTCCTATTGCCT 1016 GCTTGTCAAGGAAGATAGTAGTAAGAGAGGGTTCTTTTTCTCTGCTATTGCTATTGCTATTG

රු සි	2062 CCTGCCGCTAATCAGTTGAGTCTCCAATCTGCATTTGTCTCTTTCTT	qq	81
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. a	 GlyAsnArgValAlaProLysLeuTrpl	ቋ ጅ	311
È	CAAGATTCTCATCCTGCAGTCATTGGTAGCACAACTGGTGGTTCTGTTACAATTAGTGGG	4	8
අු	GluAspAsnAsnProIleGluAspAsnAsnProIleAsnLeuSerGly	ò	315
È	2224 CCTATCTTTTTGAGGATTTGGATGATACAGCTTATGATAGGTATGATTGGCTAGGTTCT 2283	셤	98
qq	euLeuAspAspGluAsnLeuAspProTyrAspThrAlaAspLeu	ò	321
ð í	AATCAAAAAATCAATGTCCTGAAATTACAGTTAGGGACTAAGGCCCCCAGCT	d d	88
අු	AlaGinProlleAlaGiuValProLeuLeuTyrLeuLeuABpValInrAlaLyBH1B	ò	327
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đ	ProGluGlyLeuAsnThrThrGlnH1sTyrGlyTyrGlnGly	ζ	333
È	AGCTGGAAGCTTGCGTGGGATCTAATACA	qq	92
අු	ValTrpSerProTyrTrp1leGluThr1leThrThrSerAspInrSerSerSerGluAspInr	ò	335
දු පු	2422 GCAAATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAAACTGGGTATAATCCTGGG 2481 	q	96
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È	2584 TATTGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTCTTCTATCATGAC 2634		
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57 ACACATCCTAATAAATATAGCTTTATGGCGGCTTATATCTGTGATGCTTATCGCACCATC 3216 117 TCTGGTACTGAGACAACGCTCCTATCCCATCAAGAGACATGGACAACAGATGCCTTTCAT 3276 137 GAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGT 3396 | SI TTPACAGAGGAGGATCAAGCTCGGGCATTCAAGAGCGGACAT-----CTCCTAAAT 3114 :::||| ||| ||| 880 ProGluValAsnValSerLeuGluSerGlySerSerGlySerSerTrpLeuLeuSerGlyThrThr 899 |||||||||||:: ::: ::: :::|||
300 LeuAlaArgAsnAlaIleAlaPheLysGlyArgAsnGlnIlePheIlePheProLysLeu 919 ||||::: |||| 920 SerValPheLeuAspTyrGlnGlySerValSerSerSerThrThrThrHisTyrLeuHis 939 397 GCAGGAAGTAGAGTCCGGTTC 3417 pleted: May 13, 2006, 10:36:53 496 secs |||||||::: 940 AlaGlyThrThrPheLy8Phe 946 12

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1 Sequence 2, Application US/10701844

2 Publication No. US20040067524A1

3 Gequence 2, Application No. US20040067524A1

3 Gequence 2, Application No. US20040067524A1

3 APPLICANT: Packeon, W. James

APPLICANT: Packeon, W. James

APPLICANT: Packeon, W. James

APPLICANT: Packeon, W. James

APPLICANT: Packeon, W. James

TITE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof

FILE SPERBNCE: 7969-986-999

CURRENT APPLICATION NUMBER: US/10/710.44

PRIOR PILING DATE: 1900-07-06

PRIOR FILING DATE: 1997-10-02

NUMBER OF SEQ ID NOS: 43

SOFTWARE: PatentIn version 3.0

SOFTWARE: PRT

CREANISM: Chlamydia sp.

JORGANISM: Chlamydia sp.

US-10-701-844-2

Alignment Scores: One Matches: One Percent Similarity: 100.04

Mismatches: One Mismatches: One Percent Similarity: 100.04

Query Match: 4

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Publication No. US20040137005A1

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THILE OF INFORMATION UNMERR: US/10/766,711
CURRENT APPLICATION NUMBER: US/10/766,711

CURRENT FILING DATE: 1997-10-02
NUMBER OF SEQ ID NOS: 43

SOFTWARE: Patentin version 3.0

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US-10-931-779-2

Sequence 2, Application US/10931779

Publication No US20050048557A1

GENERAL INFORMATION:
APPLICANT: Jackson, W. James

TILE REPRERENCE: BP104

TILE REPRERENCE: BP104

CURRENT FILING DATE: 2004-09-01

PRIOR FILING DATE: 2004-09-01

PRIOR FILING DATE: 200-04-03

NUMBER OF SEQ ID NOS: 43

SOFTWARE: Patentin version 3.0

SEQ ID NO 2

LENGTH: 1012

TYPE: PR
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Conservative:
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Gaps:
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US-10-931-779-2
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Best Local Similarity:
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Sequence 9, Application US/10467534
; Publication No. US20040131625A1
; GENERAL INFORMATION:
    APPLICANT: Berthet, Francois-Xavier Jacques
; APPLICANT: Lobet, Yves
    APPLICANT: Poolman, Jan
; APPLICANT: Verlant, Vincent Georges Christian Louis
; TITLE NOF INVENTION: Vaccine Composition
; TITLE OF INVENTION: Vaccine Composition
; FILE REFRENCE: B45261
; CURRENT APPLICATION NUMBER: US/10/467,534
; CURRENT APPLICATION NUMBER: G8 0103169.9
; PRIOR FILING DATE: 2001-02-08
; PRIOR FILING DATE: 2001-02-08
; NUMBER OF SEQ ID NOS: 108
; NUMBER OF SEQ ID NOS: 108
; SOSTWARE: FRABESEQ for Mindows Version 4.0
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                                                                CCTTTCGTGCAAGCTGAGTTTTCTTATGCCGATCATGAATCTTTTACAGAGGAAGGCGAT
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## Publication No. US20050106162A1

## GENERAL INFORMATION:

## APPLICANT: Grandi, Guido

## APPLICANT: Ratti, Giulio

## TITLE OF INVENTION: Immunisation Against Chlamydia Trachomatis

## TITLE OF INVENTION: Immunisation Against Chlamydia Trachomatis

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Sequence 83, Application US/10498327 Publication No. US20050106162A1 GENERAL INFORMATION: APPLICANT: Grandi, Guido

US-10-498-327-83

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APPLICANT: Ratti, Giulio
TITLE OF INVENTION: Immunisation Against Chlamydia Trachomatis
FILE REFERENCE: 0.02441.00085
CURRENT APPLICATION NUMBER: US/10/498,327
CURRENT FILING DATE: 2.004-06-10
PRIOR APPLICATION NUMBER: PCT/IB02/05761
PRIOR APPLICATION NUMBER: PCT/IB02/05761
PRIOR FILING DATE: 2002-12-12
NUMBER OF SEQ ID NOS: 262
SOFTWARE: Patentin version 3.2
SEQ ID NO 83
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Oy 862 AATGGTACTATTATTCTAAAACAGATCTTTGTTACTCAATAATGAGAAGTTCTCATTC 921	Db 201 GiyileSerLysLeuCysValPheGlnGluAsnThrAlaGlnAlaAspGlyGlyAlaCys 220 ClyileSerLysLeuCysValPheGlnGluAsnThrAlaGlnAlaAspGlyGlyAlaCys 220 1042 CAAGTAGTCACTATTCTCTGCTATGGCTAACGAGGTCCTATTGCTTTGAGCGAAT 1101	1162 261 1222 281	1282 301 1342	н	Qy 1459 GGAGAGGAGTAGTTTTTTAGTAGCAATGTAGCTGGGAAAGGGGGAGCTATTTAT 151 Db	381 1579 401	Oy 1639 GATATTATTTCGATGGGAATCTTAAAGAACAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGA	1759 AGAGCTAAAGCACCATCAGATTCTCTTTAATGATCCCATCGAGATGGCAAACGGAAAT	Db 481 AsnGllPFCAlaGlinErchiation
Db 961 ThrThrAspAlaPheHisLeuAlaArgHisGlyValIleValArgGlySerWetTyzAla 980 Qy 3319 TCTCTAACAAGTAATHTAGGCCATGGAAGATATGAGTATCGAGATGCTTCT 3378 Db 981 SerLeuThrSerAsnileGluValTyrGlyHisGlyArgTyrGluTyrArgAspThrSer 1000 Qy 3379 CGAGGCTATGGTTGAGTGCAGGAAGTAGAGTCCGGTTC 3417 Db 1001 ArgGlyTyrGlyLeuSerAlaGlySerLysValArgPhe 1013	RESULT 8 US-10-498-327-9 ; Sequence 9, Application US/10498327 ; Sequence 90. Application US/10498327 ; Publication No. US20050106162A1 ; Publication No. US20050106162A1 ; Publication No. US20050106162A1 ; APPLICANT: Grandi, Guido ; APPLICANT: Ratti, Giulio ; TITLE OF INVENTION: Immunisation Against Chlamydia Trachomatis ; TITLE OF 100085	CURRENT APPLICATION NUMBER: US/10/498,327 CURRENT FILING DATE: 2004-06-10 PRIOR APPLICATION NUMBER: PCT/IB02/05761 PRIOR APPLICATION NUMBER: PCT/IB02/05761 NUMBER OF SEQ ID NOS: 262 SOFTWARE: Patentin version 3.2 SEQ ID NO 9.	lamydia trachomatis :	Score: 5123.50 Marches: 979 Percent Similarity: 98.8% Conservative: 22 Best Local Similarity: 96.6% Mismatches: 11 Query Match: 65.0% Indels: 1 DB: 5	-10-701-8	OY 442 TARANICOSCOS CONTROL OF THE TARANICOS CONTROL OT THE TARANICOS CONTROL OF THE TARANICOS CONTROL OF THE TARANICOS CONTROL OF THE TARANICOS CONTROL OF THE TARANICOS CONTROL OF THE TARANICOS CONTROL OF THE TARANICOS CONTROL OF THE TARANICOS C	Oy 562 TCTGCAGGAGAGTTAAAAAATCTTGACAATTCTATTGCAGCTTTGCCTTTAAGT 621	81 CysPhedlyAsnLeuchlySerPheThrValLeuchyArgdlyHisSerLeuThrPhe 682 GAGAACATACGACTTCTACAAATGGGGCGCCTCTAAGTAATAGCGCTGCTGATGGACTG [Oy 742 TTTACTATTGAGGGTTTTAGGAATTATCCAATTGCTATACTTACT

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TCTCTAACAAGTAATATAGAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCT 3378
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                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
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                                Alignment Scores:
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Percent Similarity:
Best Local Similarity:
Query Match:
      LENGTH: 1013

TYPE: PRT

CRGANISM: Chlamydia
US-10-498-327-1
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                   GGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGTTTATGGGGATCCATTTTAGATATA
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Matches:
       Sequence 3, Application US/10498327
| Publication No. US20050106162A1
| GENERAL INFORMATION:
| APPLICANT: Grandi, Guido
| TITLE OF INVENTION: Immunisation Against Chl.
| TILE REPERENCE: 002441.00085
| CURRENT FILING DATE: 2004-06-10
| PRIOR PRICH ODTE: 2004-06-10
| PRIOR PILING DATE: 2002-12-12
| NUMBER OF SEQ ID NOS: 262
| SOFTWARE: Patentin version 3.2
| SEQ ID NO 3.2
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Percent Similarity:
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Query Match:
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US-10-498-327-3
US-10-498-327-3
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211 ValvalSerPheSerArgAsnThrAlaValGluPheAspGlyAsnValAlaArgValGly
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                                                                                                                                                 Sequence 43, Application US/10701844

Publication No. US20040067524A1

GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: Jackson, W. James

APPLICANT: Pace, John

TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof

FILE REPRENCE: 7969-086-999

CURRENT APPLICATION NUMBER: US/09/612,402B

PRIOR APPLICATION NUMBER: US/09/612,402B

PRIOR APPLICATION NUMBER: 08/942,596

PRIOR FILING DATE: 1997-10-02

NUMBER OF SEQ ID NOS: 43

SOFTWARE: PatentIn version 3.0

SEQ ID NO 43

LENGTH: 984
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Mismatches:
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Percent Similarity: 100.04
Best Local Similarity: 100.04
Query Match: 64.94
DB:
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CORGANISM: Chlamydia
US-10-701-844-43
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                                    GCCGATCATGAATCTTTTACAGAGGAAGGCGATCAAGCTCGGGCATTCAAGAGCGGACAT
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Fublication No. US20040137005A1
GENERAL INFORMATION:
APPLICANT: Jackson, W. James
APPLICANT: Pace, John
TITLE OF INVENTION: Chlamydia Protein, Gene Seq
FILE REFERENCE: 7969-062-999
CURRENT FAPRICATION NUMBER: US/10/766,711
CURRENT FILING DATE: 2004-01-27
FRIOR PILING DATE: 2004-01-27
FRIOR APPLICATION NUMBER: US/08/942,596
NUMBER OF SEQ ID NOS: 43
SOFTWARE: Patentin version 3.0
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ORGANISM: Chlamydia sp.
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Best Local Similarity:
Query Match:
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US-10-931-79-43
US-10-931-79-43
i Sequence 43, Application US/10931779
i Sequence 43, Application US/10931779
i Publication No. US2050046857A1
i GENERAL INFORMATION:
i APPLICANT: Jackson, W. James
i APPLICANT: Pace, John
i TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
i FILE REFERENCE: BP104
i FILING DATE: 2004-09-01
i PRIOR PILICATION NUMBER: US/10/931,779
i CURRENT FILING DATE: 2004-09-01
i PRIOR FILING DATE: 2004-09-01
i PRIOR FILING DATE: 2004-04-03
i NUMBER OF SEQ ID NOS: 43
i SOFTPARE: Patentin Version 3.0
i ERNGTH: 984
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                                                    AATCTTGACAATTCTATTGCAGCTTTGCCTTTAAGTTGTTTTGGGAACTTATTAGGGAGT
                                                            61 PheThrValLeuGlyArgGlyHisSerLeuThrPheGluAsnlleArgThrSerThrAsn
                                                                                                            GGGGCAGCTCTAAGTAATAGCGCTGCTGATGGACTGTTTACTATTGAGGGTTTTAAAGAA
                                                                                                                                      241 ValValSerPheSerArgAsnThrAlaValGluPheAspGlyAsnValAlaArgValGly
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                                                                                TITIACTGTTTTAGGGAGGAGGACACTCGTTGACTTTCGAGAACATACGGACTTCTACAAAT
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1546 GGCCCTGTACAATTTTTAAGGAATATCGCTAATGATGGTGGAGCGATTTATTT	1726 TCGATGGGATCGGAGGAAAATAACGACATAAGAGCTAAAGCAGGGCATCAGATTCTC 1785		1906 ACTITGTACCAAANGTTACGATACGAAGGAAGGATTCTTCGTGAAAAGGAAA 1965 481	501 LeuServalAenSerLeuSerGinfhrGlydlySerLeufyrMetGluAlaGlySerThr 520 2026 TGGGATTTTGTAACTCCACAACACCACAACAGCCTCCTGCCGCTAATCAGTTGATCACG 2085 [11 IIPABPFILEVATIMIETOSIOSIMSTATIOFICATAATAASMATATATATATATATATATATATATATATATA	9 7	06 T 81 S	2266 TATGATTGGCTAGGTTCTAATCAAAAATCAATGTCCTGAAATTACAGTTAGGGCTAAG 2325 	2326 CCCCCAGCTAATGCCCCATCAGGATTTGACTCTAGGGAATGAGATGCCTAAGTATGGCTAT 2385	2386 CAAGGAAGCTGGAAGCTTGCGTGGGATCCTAATACAGCAAATAGTGGTCCTTATACTCTG 2445 	2446 AAAGCTACATGGACTAAAACTGGGTATAATCCTGGGGCCTGAGCGAGTAGCTTCTTTGGTT 2505 	2506 CCAAATAGTTTATGGGGATCCATTTTAGATATACGATCTGCGCATTCAGCAATTCAAGCA 2565 	2566 AGTGTGGATGGGCGCTCTTATTGTCGAGATTATGGGTTTCTGGAGTTTCGAATTTCTTC 2625	2626 TATCATGACCGCGATGCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGTTATTCCTTA 2685
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AACAGATCTTTTGTTACTCAATAATGAGAAGTTCTCATTC 921 AGAATTATCCTTTTCCAATTGCAATTCATTACTTGCCGTA 801 AGCAGAAATCATGGTTCCTCAAGGAATTTACGATGGGGG 501 TRIBACTGTTATAGAGATCCGAGTGGGACTACTGTTTT 561 AAAAATCTTGACAATTCTATTGCAGCTTTGCCTTTAAGT 621 GAGTTTTACTGTTTTAGGGAGAGCACACTCGTTGACTTTC 681 otein, Gene Sequence and Uses Thereof 1013 980 17 15 1 Length:
Matches:
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201 GlylleSerLysLeuCysValPheGlnGluAsnThrAlaGlnAlaAspGlyGlyAlaCys 220	ò	2119 TTAGCAA
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221 GINVALVAINTEEFFNESEFALAMETALAABNGIUALAFFOILEALAFNEVALAAABN 240	ò	2179 GCAGTCA
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AATAATGGAAAAACCTTGTTTCTCAACAATGTTGCTTCTCCTGTTTACATTGCTGTTAAG	č	2359 GGGAATG
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1342 CAACCAACAAGTGGACAGGCTTCTAATACGAATAATTACGGAGATGGAGAGATTC 1401	3 8	
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ACATTIGCAGAGAGAGCGAIGTICGTICGGATAATAACIGICTGGCTGGAGAG 2958 CGATGTTCTAGTACACATCCTAATAAATATAGCTTTATGGCGCGTTATATCTGT 3196 ATTGGTAGCACAACTGGTGGTTCTGTTACAATTAGTGGGCCTATCTTTTTGAG 3GAGATGCGTTATCCGTGCTAGCTACGGGTTTGGGAATCAGCATATGAAAACC ACANTGCAGTTACGAATCCTCCTACCAATCCTCCAGCGCAAGATTCTCATCCT SCTTGCATAGGATCCGTTTATCTATCTACCCAACAAGCTTTATGTGGATCCTAT

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LT 18 0-701-844-16 quence 16, Application US/10701844	<i>&</i> 4	982 GGBATTAGCAAGCTTTGTGTCTTCCAAGAAATACTGCTCAAGCTGATGGGGGGGG
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TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof FILE REPRENCE: 7969-086-999 CURRENT APPLICATION NUMBER: US/10/701,844 CURRENT FILING DATE: 2003-11-04	λο વ α	1102 GTTGCAGGAGTAAGAGGGGAGGGATTGCTGCTGCTTCAGGATGGGCAGCAGGAGTGTCA 1161
PRIOR APPLICATION NUMBER: US/09/612,402B PRIOR FILING DATE: 2000-07-06 PRIOR APPLICATION NUMBER: 08/942,596 PRIOR FILING DATE: 1997-10-02	λ ₀ q ₀	1162 TCATCTACTTCAACAGAAGATCCAGTAGTATTTTCCAGAAATACTGCGGTAGAGTTT 1221
; NUMBER OF SEQ ID NOS: 43 ; SOFTWARE: Patentin version 3.0 ; SEQ ID NO 16 ; LENGTH: 1013	cy Gl	1222 GATGGGAACGTAGCCCGAGTAGGAGGGATTTACTCCTACGGGAACGTTGCTTTCCTG 1281
; TYPE: PRT ; ORGANISM: Chlamydia sp. US-10-701-844-16	٠ م	1282 AATAATGGAAAAACCTTGTTTCTCAACAATGTTGCTTCTCCTGTTTACATTGCTGCTAAG 1341
Alignment Scores: Length: 1013 Score: 0 Matches: 980 Percent Similarity: 98.2% Conservative: 15	δ da	1342 CAACCAACAACAGGCTTCTAATACGAGTAATAACTACGGACATGGAGGAGCTATC 1401
Mismatches: Indels: Gaps:	& _. a	1402 TTCTGTAAGAATGGTGCGCAAGCAGGATCCAATAACTCTGGATCAGTTTCCTTTGGT 1458
US-10-701-844-1 (1-4435) x US-10-701-844-16 (1-1013) Qy 382 ATGCAACGTCTTTCCATAAGTTCTTTCAATGATTCTAGCTTATTCTTGCTGCTCT 441	& a	1459 GGAGAGGGAGTAGTTTTCTTTAGTAGCAATGTAGCTGCTGGGAAAGGGGGAGCTATTTAT 1518
1 MetGinThrSerPheHisLysPheFheLeuSerMetIleLeuAlaTyrSerCysCysSer 20 442 TTAAATGGGGGGATATGCAGCAGAAATCATGGTTCCTCAAGGAATTTACGATGGGGAG 501	& લ	H 4
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101 GluAsnileArgThrSerThrAsnGlyAlaAlaLeuSerAspSerAlaAsnSerGlyLeu 120	δ _	1819 AACCAGCCAGCGCAGTCTTCCAAACTTCTAAAAATTAACGATGGTGAAGGATACACAGGG 1878

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841 SerTyrThrPheAlaGluGluSerAspValArgTrpAspAsnAsnCysLeuValGlyGlu 860
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                                  CCTTTCGTGCAAGCTGAGTTTTCTTATGCCGATCATGAATCTTTTACAGAAGGCGAT
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Publication No. US20040137005A1

GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: Jackson, W. James

APPLICANT: Jackson, W. James

APPLICANT: Pace, John

TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof

FILE REPERENCE: 196-062-99

CURRENT APPLICATION NUMBER: US/10/766,711

CURRENT PILING DATE: 2004-01-27

PRIOR PILING DATE: 1997-10-02

NUMBER OF SEQ ID NOS: 43

SOFTWARE: PatentIn version 3.0
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GATATTGTTTTTGCTAATGGAAGCAGTACTTTGTACCAAAATGTTACGATAGAGCAAGGA
                                             AspileValPheAlaAsnGlyAsnSerThrLeuTyrGlnAsnValThrIleGluGlnGly
                                                                            AGGATTGTTCTTCGTGAAAAGGCAAAATTATCAGTGAATTCTCTAAGTCAGACAGGTGGG
                                                                                       ArgileValLeuArgGluLysAlaLysLeuSerValAsnSerLeuSerGlnThrGlyGly
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i Sequence 16, Application US/10766711

j Publication No. US20040137005A1

i GENERAL INFORMATION:
i APPLICANT: Jackson, W. James

j APPLICANT: Pace, John

i TILE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof

FILE REPRENCE: 7959-062-999

i CURRENT APPLICATION NUMBER: US/10/766,711

i CURRENT PILING DATE: 1997-10-02

j NUMBER OF SEQ ID NOS: 43

j SOGTWARE: Patentin version 3.0

j SEQ ID NO 16

i LENOTH: 103
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                                      HiBHIBAlaCys1leGlySerValTyrLeuSerThrLyBGlnAlaLeuCysGlySerTyr
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   ArgTyr11eSerGlyGlyTyrSerLeuGlyAlaAsnSerTyrPheGlySerSerMetPhe
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361 GLY 1519 GCC 381 1579 GAT 1579 GAT 401 ABP		අු	721 ArgSerAlaHisSerA
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	GGTGGGGGATTTATTTAGGAGAATCTGGAGAGCTCAGTTATCTGCTGATTATGGA 1638	& a	2659 CGGTATATTAGTGGGG
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1759 AGA 	AGAGCTAAAGCAGGCATCAGATTCTCTTTAATGATCCCATCGAGATGGCAAACGGAAAT 1818	х а	2839 TTGTTCG4AGATGCGT
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2119	TTAGCAAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGGGGAAGATTCTCATCCT 2178 	ò 8	3199 GATGCTTATCGCACCA
2179 GC 	AGTCATTGGTAGCACAACTGCTGGTTCTGTTACAATTAGTGGGCCTATCTTTTTGAG 2238 	& A	
2239 GA 2239 GA 	GATTTGGATGATACGCTTATGATAGGTATGATTGGCTAGGTTCTAATCAAAAATCAAT 2298	ò 8	3319 TCTCTAACAAGTAATA
2299	GTCCTGAAATTACAGTTAGGGGCTAAGCCCCCACCGGCTACAGATTTGACTCTA 2358	ठे व	3379 CGAGGCTATGGTTTG
2359	GGGAATGCGTAAGTATGGCTATCAAGGAAGCTGGAAGCTTGCGTGGGATCCTAAT 2418 	RESULT US-10-9 ; Seque	RESULT 21 NS-10-931-779-15 Sequence 15, Application US, Publication No. US2005004855
~	AGCAAATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAAACTGGGTATAATCCT 2478	GEN AP	EKAL INFORMATION: PLICANT: Jackson, W. Jame PLICANT: Pace, John

ACCGATTGTGATTACTCCATCTAAGCTCTATTTGAATGAGTTGCGT 3018 CATCTCTGGTACTGAGACACCCCTATCCCATCAAGAGACATGG 3258 rcatttagcaagacatggggttagaggtctatgtatgct 3318 IATAGAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCT 3378 2838 2898 2958 GAGTTTTCTTATGCCGATCATGAATCTTTTACAGAGGAGGCGAT 3078 TRGTACACATCCTAATAAATATAGGCTTTATGGCGGCTTATATCTGT 3198 2598 2658 STITATCCGTGCTAGCTACGGTTTCGGAATCAGCATATGAAAACC 2896 740 760 ProTyrThrLeuLysAlaThrTrpThrLysThrGlyTyrAsnPro 700 TCGAATTTCTTCTATCATGACCGCGATGCTTTAGGTCAGGGATAT IS/10931779 ISS7A1 шев

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   Thereof
   Uses
TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and FILE REFERENCE: BP104
CURRENT APPLICATION NUMBER: US/10/931,779
CURRENT FILING DATE: 2004.09.01
PRIOR APPLICATION NUMBER: 09/542,520
PRIOR FILING DATE: 200-04-03
NUMBER OF SEQ ID NOS: 43
SOFTWARE: Patentin version 3.0
SEQ ID NO 15
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Percent Similarity:
Best Local Similarity:
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US-10-931-79-16
is equence 16, Application US/10931779
is equence 16. Application US/10931779
is publication No. US20050048557A1
is GENERAL INFORMATION:
is APPLICANT: Jackson, W. James
is APPLICANT: Pace, John
is TITLE OF INVENTION:
is FILE REFERENCE: BP104
is CURRENT APPLICATION NUMBER: US/10/931,779
is CURRENT PILING DATE: 2004-09-01
is PRIOR PILING DATE: 200-04-03
is NUMBER OF SEQ ID NOS: 43
is SEQ ID NO 16
is LENGTH: 1013
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8	772 TTTTCCAAT	TGCAATTCATTACTT	SCCGTACTCCCTGCTC	TTTTCCAATTGCAATTCATTACTTGCCGTACTGCCTGCTGCTGCAACGACTAATAAGGGTAGC	GC 831	qq
Db 1	125 PheserAsn	CysAsnSerLeuLeu	alavalieuProAl <i>al</i>	lathrthrasnLysGlyS		ò
8 6	832 CAGACTCCG	CGACGACAACATCTACA(CCGTCTAATGGTACT	CAGACTCCGACGACAACATCTACACCGTCTAATGGTACTATTATTTAT	TT 891	qq
		AATAATGAGAAGTTC	CATTCTATAGTAAT	THETTACTICAATAATGAGAAGTICTCAATTCTATAGTAATTTAGTCTCTGGAGATGGGGGA		ò
	92	AsnAsnGluLysPhe		euLeuLeuAsnAsnGluLysPheSerPheTyrSerAsnLeuValSerGlyAspGlyGly		요 :
ò	952 GCTATAGAT	GCTAAGAGCTTAACG	STTCAAGGAATTAGG	CTATAGATGCTTAACGCTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAA	AA 1011	ි සි
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8 &	1312 GTTGCTTCT	CCTGTTTACATTGCT ProValTyrIleAla	GCTAAGCAACCAACA 	GTTGCTTCCTGTTTACATTGCTGCTAAGCAACCAACAAGTGGAAAGGCTTCTAATACG 	CG 1371 	යි ⁽
φ.	1372 AGTAATAAT	ttacggagatggagga 	GCTATCTTCTGTAAG	agtaataattacggagatggaggtatcttctgtaagaatggtgcgcaaggacggatcc	CC 1431	3 8

	325	spGlyGlyAlailePheCysLysAsnGlyAlaGlnAlaGlySer 344
г	345	AATAACTCTGGATCAGTTTCCTTTGATGGAGAGGGAGTAGTTTTCTTTAGTAGCAATGTA 1491
П	1492 365	3AGCTATTTATGCCAAAAAGCT
П	1552 385	AGGAATATCGCTAATGATGGTGC
	1612 405	TTATGGAGATATTATTTTCGATGGGAA;
•	1672 425	AACTGTGTCCTCACAAGCCATTTCGATG 1
	1732	TAAAGCAGGCATCAGATTCTCTTTAAT 17
Ţ,	1792 465	TADACGGAAATAACCAGCCAGCGCAGTCTTCCAAACTTCTAAAA 18
,	1852 485	ARTGITTTTGCTAATGGAAGCAGTACTTTG 19
•	1912 505	GAITGITCITCGTGAAAGGCAAAITAICA 19
.,	1972 525	ATTCTCTAAGTCAGACAGGGGAGTCTGTATATGGAAGCTGGGGATACATGGGAT 20
.,	2032 545	GCTAATCAGTTGATCACGCTTTCC 20
	2092 565	AATCHGCAITTGECTCTTTCTTCTTTGFTAGCAAACAATGCAGTTACGAATCCTCCTACC 21
	2152 585	AATCCTCCAGCGCAAGATTCTCATCCTGCAGTCATTGGTAGCCACAACTGCTGGTGGTTCTGTT 22
	2212 605	ACAATTAGTGGGCCTATCTTTTTGAGGÀTTTGGATGATACAGCTTATGATAGGTATGAT 22
	2272 625	TGGCTAGGTTCTAATCAAAAATCAATGTCCTGAAATTACAGTTAGGGACTAAGCCCCCA 23
	2332	GCTAATGCCCCATCAGATTTGACTCTAGGGAATGAGATGCCTAAGTATGGCT7
	2392	AGCTGGAAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCT 2451
	2452	ACATGGACTAAAACTGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAAT 25

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FEATURE:
NAME/KEY: VARIANT
LOCATION: (1)...(982)
OTHER INFORMATION: Xaa = Any Amino Acid
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5084.00
99.8%
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64.5%
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Percent Similarity:
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AspargaspalaLeudlyGlndlyTyrargTyrIleSerGlyGlyTyrSerLeuGlyAla
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US-09-841-132-176
Sequence 176, Application US/09841132
PECENT NO. US20020061848A1
GENERAL INFORMATION:
APPLICANT: Bhatia, Ajay
APPLICANT: Skeiky, Yasir A.W.
APPLICANT: Probst, Peter
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    AND
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATMENT ITILE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION DIAGNOSIS OF CHLAMYDIAL INFECTION FILE REPERENCE: 210121.46909 CURRENT APPLICATION NUMBER: US/09/841,132 CURRENT FILING DATE: 2001-04-23 NUMBER OF ERQ ID NOS: 599 SOFTWARE: FastSRQ for Windows Version 3.0/4.0 SEQ ID NO 176 LENGTH: 992
INGRIFY FRI ORGANISM: Chlamydia
                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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2272 TGGCTAGGTTCTAATCAAAAATC	3 1 3 1 5 1 <i>r</i>	721 ABPATGABPALGUGLYGINGLING 1 1 1 1 1 1 1 1 1	781 ThrGlnGlnAlaLeuCygGlySe) 2872 GGGTTTGGGAATCAGCATATGAA 801 GlyPheGlyAenGlnHiBMetLyy 2932 TGGGATAATAACTGTCTGGCTGG 2932 TGGGATAATAACTGTCTGGCTGG 821 TrpAepAenAenCygLeuAlaGly 2992 TCTAAGCTCTATTTGAATGAGTTY		901 TyrSerPheMetAlaAlaTyril
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221 AlavalGlnAepGlyGlnGlnGlyValSerSerThrSerThrGluAepProValVal 240 1192 AGTTTTCCACAAATACTGCGGTAGACTTTGATGGGAACGTAGCCCGAGTAGGAGGGGGGGG	AGTAATAATTACGGAGATGGAGGAGCTATCTTCTGTAAGAATGGTGCGCAAGCAGGATCC 1			1912 TACCAAATGTTACGAAGGAAGGATGTTCTTCGTGAAAATTATCA 1971	2092 AATCTGCATTTGTCTTTCTTTGTTAGCAAACAATGCAGTTACGAATCCTCCTACC 2151

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TGTTTGGTCTAGCATTTACCGAAGTATTTGGTACATCT 2751 2811 GAGAGATTGCAGCGGGATTACCGATTGTGATTACTCCA 2991 TGCGFCCTTTCGTGCAAGCTGAGTTTTCTTATGCCGGT 3051 3351 ANTANGGITTCTGGAGTTTCGAATTTCTTCTATCAT 2631 2691 960 2511 2571 2331 2391 2451 TRATACAGCAAATAATGGTCCTTATACTCTGAAAGCT 2451 680 700 ATGCTTCTCTAACAAGTAATATAGAAGTATATGGCCAT NTATACGATCTGCGCATTCAGCAATTCAAGCAAGTGTG

	q a	ValLeuGlyArgGlyHisSerLeuThrPheGluAsnIleArgThrSerThrAsnGlyAla
961 GlyArgTyrGluTyrArgAspAlaSerArgGlyTyrGlyLeuSerAlaGlySerLysVal 980 3412 CGGTTC 3417	λ _ο α	712 GCTCTAAGTAATAGCGCTGCTGATGGACTGTTTACTATTGAGGGTTTTAAGAATTATCC 771
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US-10-872-155-176 Sequence 176, Application US/10872155 Sequence 176, Application US/10872155 General Information No. US20040234536Al GENERAL INFORMATION:	<i>≿</i> 8	
APPLICANT: Shatia, Ajay APPLICANT: Skeiky, Yasir A.W. PSPLICANT: Problet, Peters The Popticant Annother and Demisions and Demisi	8 8	892 INGITACTICAATAANGACAAGTICTICATICTAAATITTAGTICTICTIGGAGAATGGGGGGA 951
TITLE OF INVENTION: CONFOUNDS AND MAINTON FOR INFERIENT AND TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION FOR STREET STR	3 & 8	DECEMBER OF THE STATE OF THE ST
PRIOR APPLICATION NUMBER: 09/620,412 PRIOR FILING DATE: 2000-07-20 PRIOR APPLICATION NUMBER: 09/598,419 PRIOR FILING DATE: 2000-06-20	<i>장</i> 名	
	& ଶ	1072 AACGAGGCTCCTATTGCTAGCGAATGTTGCAGGAGTAAGAGGGGGAGGATTGCT 1131 201 AsnGlualaProlleAlaPheValAlaAsnValAlaGlyValArgGlyGlyGlyIleAla 220
APPLICATION NUMBER: FILING DATE: 1999-1(APPLICATION NUMBER: FILING DATE: 1999-1(දි සි	1132 GCTGTTCAGGATGGCAGCAGGGAGTGTCATCATCTACTTCAACAGAAGATCCAGTAGTA 1191 221 AlaValGlnAspGlyGlnGlnGlyValSerSerThrSerThrGluAspProValVal 240
	& a	1192 AGTITITCCAGAAAIACTGCGGTAGAGTITGATGGGAACGTAGCCCGAGTAGGCAGGAGGAGGAGG 1251
NUMBER OF SEQ ID NOS: 599 SEQ ID NOS: 509 EQ ID NO 176 LENGTH: 982	& A	1252 ATTTACTCCTACGGGAACGTTGCTTTCCTGAATAATGGAAAAACCTTGTTTCTCAACAAT 1311
TYPE: PRT TYPE: PRT PEATURE: Chlamydia PEATURE: O'ALMYT TO ANDEKEY: VARIANT TO ANDEX ON TO AND AND AND AND AND AND AND AND AND AND	රු සි	1312 GTTGCTTCTGTTTACATTGCTGCTAAGCAACAACAAGAGGGGGGGG
<pre>// LOCATION: (1)(982) // OTHER INFORMATION: Xaa = Any Amino Acid US-10-872-155-176</pre>	8 &	1372 AGTAATAATTACGGAGATGGAGGTATCTTCTGTAAGAATGGTGCGCAAGCAGGATCC 1431
Alignment Scores: Pred. No.: Score: Score: Score: Fercent Similarity: Parcent Similarit	상 옵	AATAACTCTGGATCAGTTTCCTTTGATGGAGGGAGTAGTTTTCTTTAGTAGCAATGTA
64.5% Indexes	& a	1492 GCTGCTGGGAAAGGGGAGCTATTTATGCCAAAAAGCTCTCGGTTGCTAACTGTGGCCT 1551
US-10-701-844-1 (1-4435) x US-10-872-155-176 (1-982) Qy	& a	GTACAATTTTTAAGGAATATCGCTAATGATGGAGCGATTTATTT
532 ATAGGAGATCCGAGTACTGTTTTTTCTGCAGGAGAGTTAACATTAAAAATCTT 591 [& 8 	1612 GAGCTCAGTTTATCTGCTGATTATGGAGATATTTTTCGATGGGAATCTTAAAGAACA 167]
GACAATTCTATTGCAGCTTTGCCTTTAAGTTGTTTTGGGAACTTATTAGGGAGTTTTACT	& a	
GTTTTAGGAAGAGACTCGTTGACTTTCGAGAACATACGGACTTCTACAAATGGGGCA	& a	1732 GGATCGGGAGGAAATAACGACATTAAGAGCTAAAGCAGGCATCAGATTCTCTTTAAT 1791

00 00 00 00 00 00 00 0	TENGTH: 670 TYPE: PRT CRGANISM: Chlamydia US-10-197-220-169 Alignment Scores: 8.92e-288 Length: 670 Pred. No.: 8.92e-288 Length: 670 Score: 8336.50 Matches: 11 Percent Similarity: 98.8\$ Matches: 1 Best Local Similarity: 97.2\$ Mismatches: 1 Query Match: 5 Gaps: 1 US-10-701-844-1 (1-4435) x US-10-197-220-169 (1-670)	- 5 =
1792 GATCCCATCCACACACACACACACACCCCCCCCCCCCCC	2632 GACCGGATGCTTTAGGTCAGGATATTGGGTATATTAGTGGGGGTTATTCCTTAGGGCATATTCCTTAGGGCATATTCCTTAGGGCATATTCCTTAGGGCATATTCCTTAGGGCATATTCCTTAGGGCATATTCCTTAGGGCATATTCCTTAGGGCATATTCCTTAGGACATATTGGTCAGGTTTACCGTTAGCGGGGTTTTACCGAGGTTTTGGTCAGGTCTTAGGTGTTTAGGTGTTTTTGGTGGTCTTTAGGTGTTTTAGGTGGTCTTTAGGTGGTCTTTAGGTGGTGTTTTTGGTAGGTCTTTAGGTGGTCTTTAGGTGGTGTTTATTGGTAGGTCTTTAGTAGGTGTGTGT	781 ThrdlinglingleucysdiyserTyrLeuPheGlyAspAlaPheIleArgAlaSerTyr

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                                   AAAAATCTTGACAATTCTATTGCAGCTTTGCCTTTAAGTTGTTTTGGGAACTTATTAGGG
                                                           AGTITITACTGITITIAGGGAGAGACACTCGITIGACITITCGAGAACATACGGACITCTACA
                                                                                   AATGGGGCAGCTCTAAGTAATAGCGCTGCTGATGGACTGTTTACTATTGAGGGTTTTAAA
                                                                                                          GluLeuSerPheSerAsnCysAsnSerLeuLeuAlaValLeuProAlaAlaThrThrAsn
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Publication No. US20050232941A1
GENERAL INFORMATION:
APPLICANT: Bhatia, Ajay
APPLICANT: Skeiky, Yasir A. W.
APPLICANT: Skeiky, Yasir A. W.
APPLICANT: Maisonneuve, Jean-Francois L.
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR TREATMENT
TITLE OF INVENTION: AND DIAGNOSIS OF CHLAMYDIAL INPECTION
FILE REPERENCE: 210121.515C4
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 CURRENT APPLICATION NUMBER: US/11/109,468
CURRENT FILING DATE: 2005-04-19
PRIOR PLING DATE: 2005-04-15
PRIOR PLING DATE: 2002-07-15
PRIOR PLING DATE: 2002-07-15
PRIOR PLING DATE: 2001-12-05
PRIOR APPLICATION NUMBER: US 10/007,693
PRIOR PLING DATE: 2001-11-06
PRIOR PLING DATE: 2001-11-06
PRIOR PRIOR PRIOR DATE: 2001-01-06
PRIOR PRIOR DATE: 2001-04-23
PRIOR PLING DATE: 2001-04-23
PRIOR PLING DATE: 2000-07-20
PRIOR PLING DATE: 2000-07-20
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PRIOR PLING DATE: 2000-04-21
PRIOR PLING DATE: 2000-04-21
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Query Match:
DB:
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US-11-109-468-169
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281 ABNASNValAlaSerProValIyxIleAlaAlaLysGlnProThrSerGlyGlnAlaSer
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                                                                                                                                                                                     Sequence 17. Application US/10701844

Publication No. US20040067524A1

GENERAL INFORMATION:
APPLICANT: Jackson, W. James
APPLICANT: Jackson, W. James
APPLICANT: Jackson, W. James
APPLICANT: Jackson, W. James
APPLICANT: Jackson, W. James
APPLICANT: Dace, John
TITLE OP INVENTION: Chlamydia Protein, Gene Seq:
FILE REPRENCE: 7969-086-999
CURRENT FILING DATE: 2003-11-04
PRIOR APPLICATION NUMBER: US/09/612,402B
PRIOR PILING DATE: 2000-07-06
PRIOR APPLICATION NUMBER: 08/942,596
PRIOR PILING DATE: 1997-10-02
NUMBER OF SEQ ID NOS: 43
SOFTWARE: Patentin version 3.0
SEQ ID NO 17
LENGTH: 505
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                                                                                                                     Sequence 17, Application US/10766711
Publication No. US20040137005A1
GENERAL INFORMATION:
APPLICANT: Jackson, W. James
APPLICANT: Bace, John
TITLE OF INVENTION: Chlamydia Protein, Gene
FILE REFERENCE: 7969-062-999
CURRENT APPLICATION NUMBER: US/10/766,711
CURRENT PILING DATE: 2004-01-27
FRIOR APPLICATION NUMBER: US/08/942,596
PRIOR PILING DATE: 1997-10-02
NUMBER OF SEQ ID NOS: 43
SOFTWARE: Patentin version 3.0
SEQ ID NO 17
LENGTH: 505
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; ORGANISM: Chlamydia sp.
US-10-766-711-17
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Best Local Similarity:
Query Match:
DB:
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Pred. No.:
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Sequence 36, Application US/10701844
Publication No. US20040067524A1
GRNERAL INFORMATION:
APPLICANT: Jackson, W. James
APPLICANT: Pace, John
TITLE REPERENCE: 7669-086-999
CURRENT APPLICATION UMBER: US/10/701,844
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                                                Sequence 17, Application US/10931779

Publication No. US20050048557A1

GENERAL INFORMATION:

APPLICANT: Jackson, W. James

TITLE OF INVENTION:

FILE REPRENCE: BP104

CURRENT APPLICATION NUMBER: US/10/931,779

CURRENT FILING DATE: 2004-09-01

PRIOR FILING DATE: 2004-09-01

PRIOR FILING DATE: 2004-09-01

SRIOR SEQ ID NOS: 43

SOFTWARE: Patentin version 3.0

FINDER: PATENTIN VERSION 3.0

SEQUENCE: PATENTIN VERSION 3.0
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US-10-931-779-17
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CURRENT FILING DATE: 2003-11-04
PRIOR APPLICATION NUMBER: US/09/612,402B
PRIOR FILING DATE: 2000-07-06
PRIOR FILING DATE: 1997-10-02
NUMBER OF SEQ ID NOS: 43
SOFTWARE: Patentin version 3.0
LENGTH: 458
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; TYPE: PRT
; ORGANISM: Chlamydia
US-10-701-844-36
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Pred. No.:
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                                                                       1870 TACACAGGGGATATTGTTTTGCTAATGGAAGCAGTACTTTGTACCAAAATGTTACGATA
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APPLICANT: Jackson, W. James
APPLICANT: Jackson, W. James
APPLICANT: Pace, John
TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
FILE REFERENCE: 7969-662-999
CURRENT APPLICATION NUMBER: US/10/766,711
CURRENT FILING DATE: 2004-01-27
PRIOR APPLICATION NUMBER: US/08/942,596
NUMBER OF SEQ ID NOS: 43
SOFTWARE: Patentin Version 3.0
SEQ ID NOS: 43
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Matches:
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TYPE: PRT
ORGANISM: Chlamydia sp.
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Db 361 SerSerLeuleuAlaAsnAsnAsnAlaValThrAsn1 Qy 2170 TCTCATCCTGCAGTCATTGGTAGCAACTGCTGTAGTAGTAGTAGTAGTAGTAGTAGTAGTAGTAGTAGTA	8 8	RESULT 34 US-10-931-779-36 US-10-931-779-36 Sequence 36, Application US/10931779 GENERAL INFORMATION: APPLICANT: Pace, John TITLE OF INVENTION W. James TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: TOTAL PROPERTY. TOTA	CURRENT APPLICATION NUMBER: US/10/931,779 CURRENT FILING DATE: 2004-09-01 FRIOR PELICATION NUMBER: 09/542,520 PRIOR PELING DATE: 200-04-03 NUMBER OF SEQ ID NOS: 43 SOFTWARE: PatentIn version 3.0 SEQ ID NO 36 LENGTH: 458 TYPE: PRT CORGANISM: Chlamydia sp.	Alignment Scores: 6.52e-200 Length: Pred. No.: 2350.00 Matches: Score: 100.0\$ Conserva Bert Local Similarity: 100.0\$ Mismatch Query Match: 29.8\$ Indels: DB:	US-10-701-844-1 (1-4435) x US-10-931-779-36 (1- QY
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US-10-701-844-37; Sequence 37, Application US/10701844; Publication No. US20040067524A1

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APPLICANT: Jackson, W. James
APPLICANT: Jackson, W. James
APPLICANT: Bace, John
TILLE OF INVENTION: Chlamydia Protein, Gene;
FILE REFERENCE: 7969-086-99
CURRENT APPLICATION NUMBER: US/10/701,844
PRIOR PILING DATE: 2003-11-04
PRIOR FILING DATE: 2000-07-06
PRIOR FILING DATE: 1997-10-02
NUMBER OF SEQ ID NOS: 43
SOFTWARE: PatentIn version 3.0
SERIGH: 325 3.7e-145 1735.00 100.0% 100.0% , ORGANISM: Chlamydia sp. US-10-701-844-37 Percent Similarity: Best Local Similarity: Query Match: DB: Alignment Scores: Pred. No.: 181 2683 101 2803 121 2923 2983 3043 2743 201 ò

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81 LeuGlyAlaAsnSerTyrPheGlySerSerMetPheGlyLeuAlaPheThrGluValPhe 100
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| Publication No. US20040137005A1
| Publication No. US20040137005A1
| GENERAL INFORMATION:
| APPLICANT: Jackson, W. James
| APPLICANT: Pace, John
| TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
| FILE REFERENCE: 7969-062-999
| CURRENT APPLICATION NUMBER: US/10/766,711
| CURRENT FILING DATE: 1997-10-02
| PRIOR PILING DATE: 1997-10-02
| WUMBER OF SEQ ID NOS: 43
| SOFTWARE: Patentin version 3.0
| SEQ ID NOS: 43
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CRGANISM: Chlamydia sp.
US-10-766-711-37
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                                                   | Sequence 325, Application US/09841132
| Sequence 325, Application US/09841132
| Patent No. US20020061848A1
| GENERAL INFORMATION:
| APPLICANT: Bhatia, Ajay
| APPLICANT: Breiky, Yasir A.W.
| APPLICANT: Prober, Peter
| TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATMENT AND
| TITLE OF INVENTION: DAGNOSIS OF CHLAMYDIAL INFECTION
| FILE REFERENCE: 210121.469C8
| CURRENT APPLICATION NUMBER: US/09/841,132
| NUMBER OF SEQ ID NOS: 599
| SEQ ID NO 325
| LENGTH: 631
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; ORGANISM: Chlamydia trachomatis
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US-09-841-132-325
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GRUERAL INFORMATION:
APPLICANT: SKeiky, Yasir A.W.
APPLICANT: Skeiky, Yasir A.W.
APPLICANT: CAPABEL FECET
TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION
TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION
TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION
TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION
FILE REFERENCE: 2004-06-18
FILE REFERENCE: 2000-07-20
PRIOR PELING DATE: 2000-07-20
PRIOR PILING DATE: 2000-04-19
PRIOR PILING DATE: 2000-04-19
PRIOR PILING DATE: 1999-10-03
PRIOR PILING DATE: 1999-10-03
PRIOR PELING DATE: 1999-10-04
PRIOR PILING DATE: 1999-10-01
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ORGANISM: Chlamydia trachomatis
US-10-872-155-325
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|129 LeuAlaGluGlyProProAlaGluPheCysArgTyrProSerHisTrpArgPro-----
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      Length:
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|161 AlaProAlaProAlaProAlaAlaSerSerLeuSerProThrValSerAspAlaArg
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                                                                                                              ATGTTCGATAATAATGCCGGGAATTTCGGAACAGTTTTTCGAGGTAAGAATAATAAT
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    422 yAsnThrAlaTyrAspAspLeuGlyIleLeuAlaAlaThrSerArgAspGlnAsnThrGl 442
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; Sequence 95, Application US/09841260
; Publication No. US20030175700A1
; Publication No. US20030175700A1
; GENERAL INFORMATION:
; APPLICANT: Bracia, Ajay
; APPLICANT: Probact, Peter
; APPLICANT: Probact, Peter
; TITLE OF INVENTION: OF CHLAMYDIAL INFECTION
; TITLE OF INVENTION: OF CHLAMYDIAL INFECTION
; TITLE OF INVENTION: UNMER: US/09/841,260
; CURRENT FILING DATE: 2001-04-23
; NUMBER OF SEQ ID NOS: 140
; SEQ ID NO 95
; LENGTH: 1016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TATGGATTCGCGAGCTCTCCTCAAGTGTTAACGCCTAATGTAACCACTCCTTTTAAGGGA
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Sequence 446, Appl Sequence 17, Appl Sequence 6, Appl Sequence 15, Appl Sequence 15, Appl Sequence 466, Appl Sequence 451, Appl Sequence 451, Appl

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US-09-598-419-176
US-10-197-220-169
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US-09-198-452A-471
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-DE=\text{LospExt=0} - \text{LospExt=0} - LOOPEL=0
-DE=\text{LospExt=0} - UNITS=\text{Disc} - START=1 - END=-1 - MATRIX=blosum62 - TRANS=human40.cdi
-LOOPEXT=0 - UNITS=\text{Disc} - START=1 - END=-1 - MATRIX=blosum62 - TRANS=human40.cdi
-MODE=\text{LospExt=0} - UNITS=\text{Disc} - START=1 - END=-1 - MATRIX=blosum62 - TRANS=human40.cdi
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Sequence 2, Appli
                                                                                                                             May 13, 2006, 10:31:28; Search time 24.6 Seconds (without alignments) 4471.544 Million cell updates/sec
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Database

382 ATGCAAACGTCTTTCCATAAGTTCTTTCTATGATTCTAGCTTATTCTTGCTGCTCT 441 1012 1012 0 0 0 Conservative: Mismatches: US-10-701-844-1 (1-4435) x US-09-612-402B-2 (1-1012) Matches: ndels: Gaps: 5267.00 100.0% 100.0% 66.8% Percent Similarity: Best Local Similarity: Query Match: DB:

Sequence 15, A Sequence 15, A Sequence 15, A Sequence 15, A Sequence 190, Sequence 190, Sequence 190, Sequence 176,

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442 TTA 21 Lew	TAAATGGGGGGGGATATGCAGCAGAAATCATGGTTCCTCAAGGAATTTACGATGGGG 501 	a 8
502 ACGTTAACTGTATCA 41 ThrLeuThrValSer	AACTGTATCATTTCCCTATACTGTTATAGGAGATCCGAGTGGGACTACTGTTTT 561 	3 A 8
562 TCTGCAGGAGAGTTA 	AGGAGAGTTAACATTAAAAATCTTGACAATTCTATTGCAGCTTTGCCTTTAAGT 621 	3 A 3
622 TGTTTTGGGAACTTAT 	TGTTTTGGGAACTTATTAGGGAGTTTTACTGTTTTAGGGAGAGGACACTCGTTGACTTTC 681 	3 A 8
682 GAGAACATACGGACTTC 	CTACAAATGGGGCAGCTCTAAGTAATAGCGCTGCTGATGGACTG 741 	3 A S
742 TTTACTATTGAGGGTT 	TTTACTATTGAGGGTTTTAAAGAATTATCCTTTTCCAATTGCAATTCATTACTTGCGTA 801 	S 8 8
802 CTGCCTGCTGCAACGAC 	CTGCTGCAACGACTAATAAGGGTAGCCAGACTCCGACGACAACATCTACACCGTCT 861 	. 음 è
862 AATGGTACTATTTATTC 	AATGGTACTATTTATTCTAAAACAGATCTTTTGTTACTCAATAATGAGAAGTTCTCATTC 921 	. 음 ê
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982 GGAATTAGCAAGCTTTGT 	GGAATTAGCAAGCTTTGTGTCTTCCAAGAAATACTGCTCAAGGTGATGGGGGGGG	. A &
1042 CAAGTAGTCACCAGTTTC 	CAAGTAGTCACCAGTTTCTCTGCTAIGGCTAACGAGGCTCCTATGCCTTTGTAGCGAAT 1101 	
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1162 TCATCTACTTCAACAGAAGATC	agarccagragtaagttttccagaaatactgcggtagagttt 1221 	. A 8
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1402 TTCTGTAAGAATGGTGC 	TTCTGTAAGAATGGTGCGCAAGCAGGATCCAATAACTCTGGATCAGTTTCCTTTGATGGA 1461 	
1462 GAGGGAGTAGTTTTCTT 	GAGGGAGTAGTTTTTTTAGTAGCAATGTAGCTGCTGGGAAAGGGGGGGG	3 8 8 ———
1522 AAAAAGCTCTCGGTTGC	CTCTCGGTTGCTAACTGTGGCCCTGTACAATTTTTAAGGAATATCGCTAATGAT 1581	_

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GGTGGAGCGATTTATTTAGGAGAATCTGGAGAGCTCAGTTTATCTGCTGATTATGGAGAT 1641 CAGCCAGCGCAGTCTTCCAAACTTCTAAAAATTAACGATGGTGAAGGATACACAGGGGAT 1881 TCTGCGCATTCAGCAATTCAAGCAAGTGTGGATGGGCGCTCTTATTGTCGAGGATTATGG GTTTCTGGAGTTTCGAATTTCTTCTATGACCGCGATGCTTTAGGTCAGGGATATCGG AATGAGATGCCTAAGTATGGCTATCAAGGAAGCTGGAAGCTTGCGTGGGATCCTAATACA CCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGTTTATGGGGATCCATTTTAGATATACGA CTGTATATGGAAGCTGGGAGTACATGGGATTTTGTAACTCCACAACACCACAACAGCCT GTCATTGGTAGCACAACTGCTGGTTCTGTTACAATTAGTGGGCCTATCTTTTTTGAGGAT ATTATTTCGATGGGAATCTTAAAGAACGGCAAAGAGAATGCTGCCGATGTTAATGGC GCTAAAGCAGGGCATCAGATTCTCTTTAATGATCCCATCGAGATGGCAAACGGAAATAAC GCAAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGCGCAAGATTCTCATCCTGCA CTGAAATTACAGTTAGGGGACTAAGCCCCCAGCTAATGCCCCATCAGATTTGACTCTAGGG

US-09-542-520-2 Alignment Scores: Pred. No.: Score: S	1-4435) x US-09-542-520-2 (1-1012) CAMACGICITICCATAAGIICITICAAIGAITCIAGCIIAITCIIGCIGCICI			Db 41 ThrLeuThrValSerPheProTyTThrValleGiyAspProSerGlyThrThrValPhe 60 Qy 562 TCTGCAGGAGAGTTAAAAAATCTTGACAATTCTATTGCAGTTTGCCTTTAAGT 621	Db 61 SeraladlydluLeuThrLeuLysBanLeuAspAsnSerTleAlaAlaLeuProLeuSer 80 Qy 622 TGTTTTGGGAACTTATTAGGAGGTTTTAGGGAGGAGGAGGACGTGACTTTC 681	Db 81 CysPhedlyAenLeudlySerPhethrvalLeudlyArgdlyHisSerLeuThrPhe 100 Qy 682 GAGAACATACGGACTTACAAATGGGGCAGCTCTAAGTAGGGCTGCTGATGGACTG 741	Db 101 GludsnileArgthrSerThrAshGlyAlaAlaLeuSerAshSerAlaAlaAspGlyLeu 120 Qy 742 TTTACTATTGAGGGTTTAAAGAATTATCCTTTTCCAATTGCAATTCATTACTTGCGTA 801	Db 121 PheThrildfludlyPheLyaGluceuSerPheSerAenCyBAenSerLeuLeuLeuAlaVál 140 Qy 802 CTGCCTGCAACGACTAATAAGGGTAGCCAGACTCCGACAACATCTACACGTT 861	Db 141 LeuProllaAlaThrThrAshLySG1/SerGlnThrProlhrThrThrThrProSer 160 Qy 862 AATGGTACTATTATTCTAAAACAGATTTTGTTACTCAATAATGAGAAGTTCTCATTC 921	Db 161 AsnGlyThrIleTyrSerLysThrAspLeuLeuLeuLeuLeuBsnAsnGluLysPheSerPhe 180 Qy 922 TATAGTAGTAGTGGAGATGGGGGAGCTATAGATGCTAAGAGGTTAACGGTTCAA 981	Db 181 TyrSerAnLeuValSerGlyAspGlyGlyAlaileAspAlaLysSerLeuThrValGln 200 Qy 982 GGAATTAGCAAGCTTTCCAAGAAAATACTGCTCAAGCTGAGGGGGGGG	Db 201 GlylleSerLysLeuCySValPheGludluAsnThrAlaGludlaAspGlyGlydlydlaCys 220 Cy 1042 CAAGTAGTCACCAGTTTCTCGCTAAGGGGGCTCCTATTGCCTTTGTAGCGAAT 1101		Oy 1102 GTTGCAGGAGTAAGAGGGGGAGGGATTGCTGCTGTTCAGGATGGCCAGGAGGAGTGTCA 1161	1162 TCATCTACTTCAACAAGATCCAGTAGTAAGTTTTTCCAGAAATACTGCGGTAGAGTTT 1	261	0	Qy 1282 AATAATGGAAAAACCTTGTTTCTCAACAATGTTGCTTCTCCTGTTTACATTGCTGCTAAG 1341
Db 741 ValSerGlyValSerAsnPhePheTyrHisAspArgAspAlaLeuGlyGlnGlyTyrArg 760 Qy 2662 TATATTAGTGGGGGTTATTCCTTAGGAGCAAACTCCTACTTTGGATCATCGATGTTTGGT 2721	2782 CATGCTTGCATAGGATCCGTTTATCTATCTACCCCAACAAGCTTTATGTGGATCCCCAACAAGCTTTATGTGGATCCCAACAAGCTTTATGTGGATCCCAACAAGCTTTATGTGGATCCCAACAACAAGCTTTATGTGGATCCCAACAACAAGCTTTATGTGGATCCCAACAACAAAACAAAAAAAA	Oy 2842 TTCGGAGATGCGTTTATCCGTGCTAGCTACGGGTTTGGAATCAGCATATGAAAACCTCA 2901 Db 821 PheGlyAspAlaPheIleArgAlaSerTyrGlyPheGlyAsnGlnHisMetLysThrSer 840	Oy 2902 TATACATTIGCAGAGAGAGAGAGATTCCTTIGGGAAAATAATAACTGTCTGGCTGGAGAGATT 2961 DD 841 TyrThrPheAlaGluGluSerAspValArgTrpAspAsnAsnCysLeuAlaGlyGluIle 860	Qy 2962 GGAGCGGGATTACCGATTGTGATTACTCCATCTAAGCTCTATTGAATGACTTGCCTCCT 3021 Db 861 GlyAlaGlyLeuProlleValileThrProSerLysLeuTyrLeuAsnGluLeuArgPro 880	Qy 3022 TTCGTGCAAGCTGAGTTTTCTTANGCCGATCATGAAGTTCTTTACAGGAAGGCGATCAA 3081	Qy 3082 GCTCGGGCATTCAAGAGCGGACATCTCCTAAATCTATCAGTTCGTTGGAGTGAAGTTT 3141	Qy 3142 GATCGATGTTCTAGTACACGTCCTAATAAATATAGCTTTATGGCGGCTTATATCTGTGAT 3201 	Qy 3202 GCTTATCGCACCATCTCTGGTACTGAGACACTCCTATCCCATCAAGAGACATGGACA 3261	Qy 3262 ACAGATGCCTTTCATTTAGCAAGACATGGAGTTGTGGTTAGAGGATCTATGTATG		Oy 3382 GCCTATGGTTTGAGTGCAGGAAGTAGAGTCCGGTTC 3417 	RESULT 2 US-09-542-520-2 ; Sequence 2, Application US/09542520	; GENERAL INFORMATION:	; APPLICANT: JACKSON, W. James ; APPLICANT: Pace, JOHN L. ; TITLE OF INVENTION: CHLAMYDIA PROTEIN, GENE SEQUENCE AND USES THEREOF ; FILE REPERENCE: 7968-076-999	CURRENT FILING DATE: 2000-04-03 PRIOR APPLICATION NUMBER: PCT/US98/20737	FRIOR FILING DATE: 1998-10-01; NUMBER OF SEQ ID NOS: 41	; SOFTWARE: Patentin Ver. 2.0 ; SEQ ID NO 2 ; LENGTH: 1012	; TYPE: PRT ; ORGANISM: Chlamydia

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GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: Jackson, W. James

APPLICANT: Pace, John

TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof

PILE REFERENCE: 7969-086-999

CURRENT APPLICATION NUMBER: US/09/612,402B

CURRENT APPLICATION NUMBER: 08/942,596

PRIOR APPLICATION NUMBER: 08/942,596

PRIOR PILING DATE: 1997-10-02

NUMBER OF SEQ ID NOS: 43

SEQ ID NO 43

LENGTH: 984
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                                                                                                                                                   score: 5116.00
Percent Similarity: 100.04
Best Local Similarity: 100.04
Ouery Match: 64.94
DB:
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US-09-612-402B-15
US-09-612-402B-15
Sequence 15, Application US/09612402B
Patent No. 6642023
GENERAL INFORMATION:
APPLICANT: Jackson, W. James
TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
FILE REPRENCE: 7969-086-999
CURRENT APPLICATION NUMBER: US/09/612,402B
CURRENT PILING DATE: 2000-07-06
PRIOR FILING DATE: 1997-10-02
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                                                                                                 ProProAlaAsnAlaProSerAspLeuThrLeuGlyAsnGluMetProLysTyrGlyTyr
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SerAlaGlyGluLeuThrLeuLysAsnLeuAspAsnSerIleAlaAlaLeuProLeuSer
                                    CysPheGlyAsnLeuLeuGlySerPheThrValLeuGlyArgGlyHisSerLeuThrPhe
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Sequence No. 6642023

GENERAL INFORMATION:
APPLICANT: Jackson, W. James
APPLICANT: Pace, John
TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses
Patent No. 6642023

FILE REPERENCE: 7969-086-999
CURRENT APPLICATION NUMBER: US/09/612,402B
CURRENT PAPLICATION NUMBER: 08/942,596
PRIOR APPLICATION NUMBER: 08/942,596
NUMBER OF SEQ ID NOS: 43
SOFTWARE: Patentin version 3.0
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Conservative:
Mismatches:
Indels:
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ORGANISM: Chlamydia sp.
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Percent Similarity:
Best Local Similarity:
Query Match:
DB:
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Conservative:
Mismatches:
Indels:
Gaps:
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ORGANISM: Chlamydia
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      GATATTGTTTTTGCTAATGGAAGCAGTACTTTGTACCAAAATGTTACGATAGAGCAAGGA
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Patent No. 6887843

GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: Pace, John L.

TITLE OF INVENTION:

TITLE REFERENCE: 7969-076-999

CURRENT APPLICATION NUMBER: US/09/542,520

CURRENT PILING DATE: 1908-001

PRIOR FILING DATE: 1998-10-01

NUMBER: PACH ONS: 41

SOFTWARE: PATENTING DATE: 1998-10-01

NUMBER: PATENTING DATE: 1998-10-01

SOFTWARE: PATENTING DATE: 1998-10-01

MUMBER OF SEQ ID NOS: 41

SEQ ID NO 15

LENGTH: 1013 CAAGCTCGGGCATTCAAGAGCGGACATCTCCTAAATCTATCAGTTCCTGTTGGAGTGAAG ATTGGAGCGGGATTACCGATTGTGATTACTCCATCTAAGCTCTATTTGAATGAGTTGCGT CCTTTCGTGCAAGCTGAGTTTTCTTATGCCGATCATGAATCTTTTACAGAGGAAGGCGAT TTGTTCGGAGATGCGTTTTATCCGTGCTACCTACGGGTTTGGGAATCAGCATATGAAAACC

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Indels:
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                                                            Length:
Matches:
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5106.50
98.2%
96.7%
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        2.0
NUMBER OF SEQ ID NOS: 41
SOFTWARE: Patentin Ver.
SEQ ID NO 16
LENGTH: 1013
                            ; TYPE: PRT
; ORGANISM: Chlamydia
US-09-542-520-16
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Best Local Similarity:
Query Match:
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Sequence 16, Application US/09542520
Batent No. 6887843
GENERAL INFORMATION:
APPLICANT: Jackson, W. James
APPLICANT: Pace, John L.
TITLE OF INVENTION: CHLAMYDIA PROTEIN, GENE SEQUENCE AND USES THEREOF
FILE REPERENCE: 7969-076-999
CURRENT FILING DATE: 2000-04-03
PRIOR PILING DATE: 1998-10-01
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                                Sequence 190, Application US/09556877

Sequence 190, Application US/09556877

Patent No. 643296

GENERAL INFORMATION:

APPLICANT: Probet, Peter

APPLICANT: Skeiky, Yasir

APPLICANT: Skeiky, Yasir

APPLICANT: Skeiky, Yasir

TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATMENT AND

TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION

TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION

TITLE OF INVENTION DIAGNOSIS OF CHLAMYDIAL INFECTION

CURRENT APPLICATION NUMBER: US/09/556,877

CURRENT FILING DATE: 2000-04-19

NUMBER OF SEQ ID NOS: 305

SOFTWARE: FastSEQ for Windows Version 3.0/4.0

SEQ ID NO 190

LENOTH: 1006
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Conservative:
Mismatches:
Indels:
Gaps:
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Percent Similarity:
Percent Similarity:
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Pest Local Similarity:
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Query Match:
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; ORGANISM: Chlamydia
US-09-556-877-190
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Sequence 100, Application US/09620412C

Patent No. 6448234

GENERAL INFORMATION:

APPLICANT: Steven P. Fling

TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATMENT AND

TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION

TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION

TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION

TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION

TITLE OF INVENTION OF SEQ ID NOS: 363

NUMBER OF SEQ ID NOS: 363

SOFTWARE: FastSEQ for Windows Version 3.0/4.0

SEQ ID NO 190

TYPE: PRT

ORGANISM: Chlamydia
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AATCTATCAGTTCCTGTTGGAGTGAAGTTTGATCGATGTTCTAGTACACATCCTAATAAA
                                                                                              Sequence 190, Application US/09598419
Patent No. 6565856
GENERAL INFORMATION:
APPLICANT: Scholler, John
TILLE OF INVENTION: COMPOUNDS AND METHODS FOR TREATMENT AND TITLE OF INVENTION: COMPOUNDS AND METHODS FOR TREATMENT AND TITLE OF INVENTION: UNMBER: US/09/598,419
CURRENT FILING DATE: 2000-06-20
NUMBER OF SEQ ID NOS: 357
SOFTWARE: FastSEQ for Windows Version 3.0/4.0
IENGTH: 1006
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Best Local Similarity:
Query Match:
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NAME/KEY: VARIANT
LOCATION: (1)...(982)
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Sequence 176, Application US/09620412C
Sequence 176, Application US/09620412C
GENERAL INFORMATION:
FAPLICANT: Steven P. Fling
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INF);
FILE REPREBACE: 210121.465C7
CURRENT APPLICATION NUMBER: US/09/620,412C
CURRENT FILING DATE: 2000-07-20
NUMBER OF SEQ ID NOS: 363
SOFTWARE: PASESEQ for Windows Version 3.0/4.0
SEQ ID NO 176
LENGTH: 982
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ORGANISM: Chlamydia
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	1372 AGTANTARTTACGGAGATGGAGGTATCTTCTGTAAGAATGGTGCGCAAGCAGGATCC 1431 	AATAACTCTGGATCAGTTTCCTTTGATGGAGAGGAGTAGTTTTCTTTAGTAGCAATGTA		GTACATTTTTAAGGATATGGCTAATGATGGTGGAGGGGGTTTATTTA		1672 GCCAAAGAGAATGCTGCCGGATGTTAATGGCGTAACTGTGTCCTCACAAGCCATTTCGATG 1731	1732 GGATCGCGAGGAAAATAACGACATTAACAGCTAAAGCAGGCATCAGATTCTCTTTAAT 1791 [GATCCCATCCAACGAAATAACCCACCCACCCACCCATTCCAAACTTCTAAAA	1852 ATTAACGATGGTGAAGGATACACAGGGGATATTGTTTTTGCTAATGGAAGCAGTACTTTG 1911 [GTGAATTCTTAAGTCAGACGGGGGGTCTGTAATGGAAGCTGGGAGTACATGGGAT		AATCTGCATTTGTCTCTTTCTTTGTTAGCAAACAATGCAGTTACGAATCCTCCTACC	AATCCTCCAGCGCAAGATTCTCATCCTGCAGTCATTGGTAGCACAACTGCTGGTTCTGTT	ABRITOFIONIAGIIMBESCHIBFIONIAGATURELLYSEIIMIMAGGTJOELVAL ACAATTAGIGGGCTATCTTTTTGAGGATTTGGATGATGATGATGATAGATA	2272 TOGCTAGGTTCTAATCAAAAATCAATGTCCTGAAATTAGAGTTAGGGACTAAGCCCCCA 2331	GCTAATGCCCCATCAGATTTGACTCTAGGGAATGAGATGCCTAAGTATGGCTATCAAGGA	621 ALBABRALAPTODETABPLEUTRILEUGLYABRGIUMELPFOLYBITYTELTYTYTETRICLY 640 2392 AGCTGGAAGCTTGCGTGGGATCCTAATACGGCAAATAATGGTCCTTATACTCTGAAAGCT 2451 [
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ATTAACGATGGTGAAGGATACACAGGGGATATTGTTTTTGCTAATGGAAGCAGTACTTTG 1911
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APPLICANT: Skeiky, Yasir A.W.
APPLICANT: Skeiky, John
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR TREATMENT AND
TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION
TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION
FILE REFERENCE: 210.12.469C6
CURRENT APPLICATION NUMBER: US/09/598,419
CURRENT PILING DATE: 2000-06-20
NUMBER OF SEQ ID NOS: 357
SOFTWARE: FastSEQ for Windows Version 3.0/4.0
SEQ ID NO 176
LENGTH: 982
TYPE: PRT
ORGANISM: Chlamydia
FEATURE:
NAME/KEY: VARIANT
JOCATION: (1)...(982)
JUCATION: (1)...(982)
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Matches:
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Indels:
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         941 ValValValArgGlySerMetTyrAlaSerLeuThrSerAsnIleGluValTyrGlyHis
                          GTTGTGGTTAGAGGATCTATGTATGCTTCTCTAACAAGTAATATAGAAGTATATGGCCAT
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US-10-197-220-169
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US-09-612-402B-17
; Sequence 17. Application US/09612402B
; Patent No. 6642023
; GENERAL INFORMATION:
; APPLICANT: Jackson, W. James
; APPLICANT: Jackson, W. James
; TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
; TITLE REPRENCE: 7969-086-999
; CURRENT APPLICATION NUMBER: US/09/612,402B
; CURRENT FILING DATE: 2000-07-06
; PRIOR FILING DATE: 1997-10-02
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn version 3.0
                                                                                                                                                                              GGCTATCAAGGAAGCTGGAAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCTTAT
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| Sequence 17. Application US/09542520
| Patent No. 6887843
| GENERAL INFORMATION:
| APPLICANT: Jackson, W. James
| APPLICANT: Pace, John L. |
| TITLE OF INVENTION: CHLAMIDIA PROTEIN, GENE SEQUENCE AND USES THEREOF
| FILE REFERENCE: 7969-076-999
| CURRENT PAPLICATION NUMBER: US/09/542,520
| CURRENT PAPLICATION NUMBER: PCT/US98/20737
| PRIOR APPLICATION NUMBER: PCT/US98/20737
| PRIOR FILING DATE: 1998-10-01
| NUMBER OF SEQ ID NOS: 41
| SOFTWARE: PatentIn Ver. 2.0
| SEQ ID NO 17
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; ORGANISM: Chlamydia
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221 IlealaalaValGlnAspGlyGlnGlnGlyValSerSerThrSerThrGluAspPro
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                                          TTTACTGTTTTAGGGAGAGACACTCGTTGACTTTTCGAGAACATACGGACTTCTACAAAT
                                                     PheThrValLeuGlyArgGlyHisSerLeuThrPheGluAsnlleArgThrSerThrAsn
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Sequence 36, Application US/09542520
Patent No. 6887843
GENERAL INFORMATION:
APPLICANT: Jackson, W. James
APPLICANT: Pace, John L.
TITLE OF INVENTION: FILAMYDIA PROTEIN, GENE SEQUENCE AND USES THEREOF
FILE REPERRICE: 7969-076-999
CURRENT APPLICATION NUMBER: US/09/542,520

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Matches:
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Mismatches:
Indels:
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CURRENT FILING DATE: 2000-04-03
PRIOR APPLICATION NUMBER: PCT/US98/20737
PRIOR FILING DATE: 1998-10-01
NUMBER OF SEQ ID NOS: 41
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 36
LENGTH: 458
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2350.00
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29.8%
                                                                            TYPE: PRT
ORGANISM: Chlamydia
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Percent Similarity:
Best Local Similarity:
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Pred. No.:
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; Sequence 37, Application US/09612402B
; Patent No. 6642023
; GENERAL INFORMATION:
; APPLICANT: Jackson, W. James
; APPLICANT: Jackson, W. James
; TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
; TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
; PILE REFERENCE: 7969-086-999
; CURRENT FILING DATE: 2000-07-06
; PRIOR PALICATION NUMBER: 08/942,596
; PRIOR PALING DATE: 1997-10-02
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 37
; LENGTH: 325
                                                                                                                  050 CCACAACACCTCCTGCCGCTAATCAGTTGATCACGCTTTCCAATCTGCATTTGTCTCTT 3 11 ProGlnGlnProProAlaAlaAsnGlnLeulleThrLeuSerAsnLewlisEuserLeu
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281 AtgHisGlyvalvalvalargGlySerMetTyrAlaSerLeuThrSerAsnileGluval
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Patent No. 6887843
GENERAL INFORMATION:
APPLICANT: Jackson, W. James
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ORGANISM: Chlamydia trachomatis
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Best Local Similarity:
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US-09-620-412C-325
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US-09-620-412C-325
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TITLE OF INVENTION: CHLAMYDIA PROTEIN, GENE SEQUENCE AND USES THEREOF
FILE REFERENCE: 7969-076-999
CURRENT APPLICATION NUMBER: US/09/542,520
CURRENT FILING DATE: 2000-04-03
PRIOR APPLICATION NUMBER: PCT/US98/20737
PRIOR APPLICATION NUMBER: PCT/US98/20737
PRIOR PILING DATE: 1998-10-01
NUMBER OF SEQ ID NOS: 41
SOFTWARE: Patentin Ver. 2.0
ERNGTH: 325
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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Percent Similarity:
Best Local Similarity:
Query Match:
DB:
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U8-09-542-520-37
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Pred. No.:
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241 ProAsnLysTyrSerPheMetAlaAlaTyrIleCysAspAlaTyrArgThrIleSerGly
                                                                                       261 ThrGluThrThrLeuLeuSerHigGlnGluThrTrpThrThrAspAlaPheHisLeuAla
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|129 LeualaGluGlyProProAlaGluPheCyaArgTyrProSerHisTrpArgPro----
                                                                3223 ACTGAGACAACGCTCCTATCCCATCAAGAGACATGGACAACAGATGCCTTTCATTTAGCA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 325, Application US/09620412C
Fatent No. 6448234
GENERAL INFORMATION:
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR:
TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFE;
FILE REFERENCE: 210121.469C7
CURRENT APPLICATION NUMBER: US/09/620,412C
CURRENT APPLICATION NUMBER: US/09/620,412C
CURRENT PILLING DATE: 2000-07-20
NUMBER OF SEQ ID NOS: 363
SOFTWARE: FastSEQ for Windows Version 3.0/4.0
IENTH: 631
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Oy 3742		Pred. No.:
		Score:
DP 5.	245 AlaGlyGluThrLeuThrLeuLy8AspPheSerSerLeuMetPheSerLysAsnValSer 264	Best Local Simi
Qy 3802		Query Match: DB:
Db 2	265 CysGlyGluLysGlyMetileSerGlyLysThrValSerileSerGlyAlaGlyGluVal 284	IIS-10-701-844-1
Qy 3862		1000
Dp 5		1961
Qy 3922		ŗ
Dp		40 747
Oy 39	3946 GATGCTCGGAAAGGGTCTATTTTTTTTTTTAGAGACTTGGAGATCTCAGGCGTCAAA 4005	·
Db 3		3302
Ολ 40	4006 AAAGGGGTCATGTTCGATAATAATGCCGGGAATTTCGGAACAGTTTTTCGAGGTAAGAAT 4065	"
Dp 3	345 LysGlyValMetPheAspAsnAsnAlaGlyAsnPheGlyThrValPheArgGlyAsnSer 364	
ογ 40	4066 AATAATAATGCTGGTGGGGGGGGGGGTGGGTTCCGCTACACCATCAAGTACGACTTTTAC 4125	~
Db 3		
07 41	4126 AGTTAAAAACTGTAAAGGGAAAAGTTTCTTTCACAGATAACGTAGCCTCTTGCGGAGGCGG 4185	,
Dp 3		2002
0y 41	4186 AGTGGTTTATAAAGGCATTGTGCTTTTCAAAGACAATGAAGGAGGCATATTCTTCCGAGG 4245	m
do 4	402 yvalvalTyrLysGlyThrValLeuPheLysAspAsnGluGlyGlyIlePhePheArgGl 422	
Qy 42	4246 GAACACAGCATACGATGATTTAAGGATTCTTGCTGCTACTAATCAGGATCAGAATACGGA 4305	m
Db 4	422 yAsnThrAlaTyrAspAspLeuGlyIleLeuAlaAlaThrSerArgAspGlnAsnThrGl 442	
Oy 43	4306 GACAGGAGGGGGTGGAGGAGTTATTTGCTCCTCCAGATGATTCTGTAAAGTTTGAAGGGCAA 4365	m
Db 4	442 uThrGlyGlyGlyGlyGlyValIleCy8SerProAspAspSerValLysPheGluGlyAs 462	
Qy 43	366 TAAAGGTTCTATTGTTTTTGATTACAACTTTGCAAAAGGCAGAGGCGGAAGCATCCTAAC 4425	m
Db 4	462 nLysGlySerileValPheAspTyrAsnPheAlaLysGlyArgGlyGlySerileLeuTh 482	Db 305
Qy 44	4426 GAAAGAATTC 4435	Qy 3946
Db da	482 rLysGluPhe 485	Db 325
RESULT 22 US-09-598-419-325 Sequence 325. A	19-325 325, Application US/09598419	4
, Patent No	Parties vis. 656.5856.	Db 345
, GENERAL 1 , APPLICAN	GENERAL INFORMATION: APPLICANT: Skeiky, Yasir A.W.	Qy 4066
; TITLE OF	APPLICANT: Scholler, John TITLE OF INVENTION: COMPOUNDS AND METHODS FOR TREATMENT AND	. Db 365
, TITLE OF ; FILE REF	NIVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION FREENCE: 210121.469C6	Qy 4126
CURRENT	CURRENT APPLICATION NUMBER: US/09/598,419 CURRENT FILING DATE: 2000-06-20	Db 382
SOFTWARE	NOMBER OF SEQ 1D NOS: 15/ SOFTWARE: FastSEQ for Windows Version 3.0/4.0	Qy 4186
; SEQ ID NO.		Db 402
; TYPE: PRT ; ORGANISM:	TYPE: PRT ORGANISM: Chlamydia trachomatis	Qy 4246
US-09-598-4	119-325	Db 422

Alignment Scores:

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4185
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                                                    -----TGGTTAGATAGTTAA 3441
                                                                           GIGTIAGCGAIGCCTITITCTITGAGAICTACAICAITITGTITITAGCTIGTITGTGT 3501
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LeuAlaGluGlyProProAlaGluPheCysArgTyrProSerHisTrpArgPro----
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Length:
Matches:
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Mismatches:
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                                                    TTGAGTGCAGGAAGTAGAGTCCGGTTCTAAAAATAT---
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278 ATYTASpAspLeuGlyIleLeuAlaAlaThrSerArgAspGlnAsnThrGluThrGlyJyGl 298
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                                                       161 AlaProAlaProAlaProAlaAlaSerSerSerLeuSerProThrValSerAspAlaArg
                                                                                                                                                         201 MetPheAspAsnAsnAlaGlyAsnPheGlyThrValPheArgGlyAsnSerAsnAsnAsn
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Sequence 166, Application US/10197220
| Sequence 166, Application US/10197220
| Patent No. 6919187
| GENERAL INFORMATION:
| APPLICANT: Bhatia, Ajay
| APPLICANT: Buderian, Jeff
| APPLICANT: Beakiy, Yesir A. W.
| APPLICANT: Maisonnewe, Jean-Francois L.
| TITLE OF INVENTION: COMPOUNDS AND METHODS FOR TREATMENT:
| TITLE OF INVENTION: AND DIAGNOSIS OF CHLAMYDIAL INFECTION
| FILE REPERENCE: 210121.515c3
| CURRENT APPLICATION NUMBER: US/10/197,220
| CURRENT FILING DATE: 2002-07-15
| NUMBER OF SEQ ID NOS: 175
| INNEMED OF SEQ ID NOS: 175
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ORGANISM: Chlamydia
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                                                     TAAAGGTTCTATTGTTTTTGATTACAACTTTGCAAAAGGCAGAGGCGGAAGCATCCTAAC
                                                                    ACACTTACTCTGAGAGATTTTTCGAGTCTGATGTTCTCGAAAAATGTTTCTTGCGGAGAA
 GACAGGAGGCGGTGGAGGAGTTATTTGCTCTCCAGATGATTCTGTAAAGTTTTGAAGGCAA
                                                                                                                                                                                            Sequence 95, Application US/10197220
Patent No. 6919187
GENERAL INPORMATION:
APPLICANT: Bhatia, Jeff
APPLICANT: Bhatia, Jeff
APPLICANT: Guderian, Jeff
APPLICANT: Greik, Yashr A. W.
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR TREATMENT
TITLE OF INVENTION: ADD DIAGNOSIS OF CHLAMYDIAL INPECTION
FILE REPERENCE: 210121.515C3
CURRENT APPLICATION UNMERS: US/10/197,220
CURRENT FILING DATE: 2002-07-15
NUMBER OF SEQ ID NOS: 175
SEQ ID NO 95:
LENGTH: 1016
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US-10-197-220-95
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AGCTCTCCTCAAGTGTTAACGCCTAATGTAACCACTCCTTTTAAGGGAGACGATGTTTAC 3582
                                                                                                                                                     3763 AGAGATTTTTCGAGTCTGATGTTCTCGAAAATGTTTCTTGCGGAGAAAAGGGAATGATC 3822
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                                    TCAGCTAATGGCGACAATTTAACGATTACCGGACAAAACCATACATTATACAGAT
                                                                                  TCTCAAGGGCCAGTTCTTCAAAATTATGCCTTCATTTCAGCAGGAGAGACACTTTACTCTG
                                                                                                                          61 SerGlnGlyProValLeuGlnAsnTyrAlaPheIleSerAlaGlyGluThrLeuThrLeu
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US-09-438-185A-455
Sequence 455, Application US/09438185A
Patent No. 6822071
GENERAL INFORMATION:

APPLICANT: Stephens, Richard APPLICANT: Mitchell, Wayne APPLICANT: Kalman, Sue APPLICANT: Davis, Ronald

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550 ACTACTGTTTTTCTGCAGGAGAGTTAACATTAAAAATCTTGACAATTCTATTGCAGCT 609
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139 ThrGlnAsnProGluLeuCysProLeuSerPheSerGlyPheSerGlnMetIlePheAsp 158
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APPLICANT: The Regents of the University of California; TITLE OF INVENTION: Chlamydia Pneumoniae Genome Sequence; FILE REFERENCE: 018941-000411US; CURRENT APPLICATION NUMBER: US/09/438,185A; CURRENT FILING DATE: 2002-03-13; PRIOR APPLICATION NUMBER: US 60/108,279; PRIOR PILING DATE: 1999-11-12; PRIOR PILING DATE: 1999-104-08; NUMBER OF SEQ ID NOS: 1074; SEQ ID NO 455; SEQ ID NO 455; LENGTH: 999
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Mismatches:
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ORGANISM: Chlamydia pneumoniae
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1366.50
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33.1%
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Best Local Similarity:
Query Match:
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GATGCTAAGAGCTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAATACT ArgGlyThrSerlis: ::::::	CAGGATGGGCAGCAGGAGTGTCATCATCAACAGAAGATCCAGTAGTAAGTTTT	GlyabnleuserGlyvalleupnevalAsnasnserserargserGlyGlyAlaileiyr TCCTACGGGAACGTTGCTTTCCTGAATAATGGAAAACCTTGTTTCTCAACAATGTTGCT :::	AATAATTACGGAGATGGAGGAGCTATCTTCTGTAAGAATGGTGCGCAAGCAGGATCCAAT	GCGGGAAGGGGAGCTATTTATGCCAAAAGCTCTCGGTTGCTAACTGTGGCCCTGTA SerGluGlnGlyGlyAlaLeuTyrGlyLySLySlleSerIleAspSerAsnLysSerThr CATTTTTAAGGAATTCGCTAATGATGGTGGAGGGATTATTTAGGAGAATCTGGAGAG IlePheLeuGlyAsnThrAalaGlyLySGlyGlyAlaIleAlaIleProGluSerGlyGlu		TCGGGAGGAAAATAACGACATTAAGAGCTAAAGCAGGCATCAGATTCTCTTTAATGAT	AAC
958 GATGCTAAG 208 ArgGlyThr 1018 GCTCAAGCT ::: ::: 228 SerIleSer 1078 GCTCCTATT 248 AlaProval		275 GIYABIL 1258 TCCTAC 1:1 295 AlaABIL 1318 TCTCCT 315 SerPro	1375 AATAAT 335Leu 1435 AACTCT 354 GlyVal		1615 CTCAGT 413 LeuSer 1675 AAAGAG	1735 TCGGGA 444 LysAsp 1795 CCCATC 464 Prolle	1855 AAC 482 AsnPro 1891 501 ThxLeu 1921 GTTACG
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2389 GGAAGCTGGAAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAA 2448 2449 GCTACATGGACTAAAACTGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCA 2508 2569 GTGGATGGGCGCTCTTAT---TGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTCTTC 2625 2626 TATCATGACCGCGATGCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGGTTATTCCTTA 2685 2686 GGAGCAACTCCTAC-----TTTGGATCATCGATGTTTGGTCTAGCATTTACCGAA 2736 2797 TCCGTTTATCTATCTACCCAACAAGCTTTATGTGGA---TCCTATTTGTTCGGAGATGCG 2853 2914 GAGGAGAGCGATGTTCGTTGGGATAATAACTGTCTGGCGGAGAGATTGGAGCGGGGATTA 2973 3034 GAGITITCTIAIGCCGAICAIGAATCTITIACAGAAGGCGAAGCAGAGCICGGGCAITC 3093 2158 CCAGCGCAAGATTCTCATCCTGCAGTCATTGGT---AGCACAACTGCTGGTTCTGTTACA 2214 2215 ATTAGTGGGCCTATCTTTTGAGGATTTGGATGATACAGCTTATGATAGGTATGATTGG 2274 2332 GCTAATGCCCCATCAGATTTG---ACTCTAGGGAATGAGATGCCTAAGTATGGCTATCAA 2388 2854 TTTATCCGTGCTAGCTACGGGTTTGGGAATCAGCATATGAAAACCTCATATACATTTGCA 2913 2038 ACTCCACAACCACCACAACAGCCTCCTGCCGCTAATCAGTTGATCACGCTTTCCAATCTG 2097 2098 CATTIGICICITICITICITIGITAGCAACAATGCAGTTACGAATCCTCCTACCAATCCT 2157 641 ThrThrThrAspPheSerLeuGlyThrAsnGlyTyrGlnGlnSerProTyrGlyTyrGln 660 559 ThrThrAsnGlyAlaAsnAsnThrAspGlyAla-----ileThrLeuAsnLysLeu 575 576 ValileAsnLeuAspSerLeuAspGlyThrLysAla------ 587 |||||||||| ::: 601 IleSerdlyThrLeuGlyLeuValLysAsnSerGlnAspCysCysAspAsnHisGlyMet 620 ::: ::: |||||||| ::: 734 HisalaAnHisThrGlyAspAlaArgSerTyrArgHisMetGlyGlyGlyTyrLeuile 753

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1090 TITGTAGCGAATGTTGCAGGAGTAAGAGGGGGAGGATTGCTGCTGTTCAGGATGGGCAG 1149
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|GlyalaLeuTyrGlyLysLysIleSerIleAspSerAsnLysSerThrIlePheLeuGly 370
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                                                                                                                                                                        GluLeuCysProLeuSerPheSerGlyPheSerGlnMet1lePheAspAsnCysGluSer 136
                                                                                                                                                                                                                 TTACTTGCCGTACTGCCTGCTGCAACGACTAATAAGGGTAGCCAGACTCCGACGACAACA 849
                                                                                         GAGAACATACGGACTTCTACAAATGGGGCAGCTCTAAGTAATAGCGCTGCTGATGGA--- 738
PheSerGlyAspLeuTyrIleAlaAsnLeuAspAsnAlaIleSerArgThrSerSerSer 76
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                                                                                                        850 TCTACACCGTCTAATGGTACTATTTATTCTAAAACAGATCTTTTGTTACTCAATAATGAG
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; Sequence 2, Application US/09430723
; Patent No. 6607730
; GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: CHLAMYDIA ANTIGENS AND CORRESPONDING DNA FRAGMENTS AND
TITLE OF INVENTION: USES THEREOF
; FILE REPRENCE: 19721-011
; CURRENT APPLICATION NUMBER: 60/106,590
; RARLIER APPLICATION NUMBER: 60/106,590
; RARLIER APPLICATION NUMBER: 60/130,773
; EARLIER APPLICATION NUMBER: 60/133,071
; BARLIER PILING DATE: 1999-10-29
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 2
; LENGTH: 973
                                                                                                                                                                                                                                                                                3334 ATAGAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTG 3393
                                                                                             3154 AGTACACTCCTAATAATATAGGTTTATGGCGGCTTATATCTGTGATGCTTATGCCACC 3213
                                                                                                                                                           3214 ATCTCTGGTACTGAGACAACGCTCCTATCCCATCAAGAGACATGGACAACAGAGACGTTT 3273
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                                                                                                                    HisasnargProaspPheTyrThrIleIleValalaTyrAlaProaspValTyrArgHis 931
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AsnProAspCysAspThrThrLeuProIleAsnGlyAlaThrTrpThrSerIleGlyAsn
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Conservative:
Mismatches:
Indels:
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992 AspIleGlySerLysLeuArgPhe 999
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Best Local Similarity:
Query Match:
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479 ThrGluAlaAlaThrProAlaAsnAlaThrSerThrLeuAsnGlnLysLeuGluLeuGlu 498
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LeuGlnGlnValProIleLeuGluLeuLysAlaThrSerAsnThrValThrThrThrAsp 618
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                                                                                                                 460 SerAlaAspGly---AlaTyrSerGlyThrIleValPheSerGlyGluThrLeuThrAla 478
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                                                               1807 GCAAACGGAAATAACCAGCCAGCGCAGTCTTCCAAACTTCTAAAAATTAAC-----
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GENERAL INFORMATION:

APPLICANT: Connaught Laboratories Limited
APPLICANT: Connaught Laboratories Limited
APPLICANT: Murdin et al.
APPLICANT: Murdin et al.
TITLE OF INVENTION: CHLAMYDIA ANTIGENS AND CORRESPONDING DNA FRAGMENTS AND
TITLE OF INVENTION: USES THEREOF
FILE REFERENCE: 19721-007-019
CURRENT PELING DATE: 1999-10-27
EARLIER APPLICATION NUMBER: 60/106,046
EARLIER PILING DATE: 1999-10-28
EARLIER PILING DATE: 1999-10-28
EARLIER PILING DATE: 1999-05-03
NUMBER OF SEQ ID NOS: 4
SEQ ID NO 2
EINGTH: 928
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950 GlyHisCysGlyCysAspIleArgArgThrSerArgLysTyrThrLeuAspIleGlySer
TAC------TITGGATCATCGATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGA
                 2749 TCTAAAGATTATGTAGTGTGTCGTTCCAATCATCATGCTTGCATAGGATCCGTTTATCTA
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; ORGANISM: Chlamydia pneumoniae US-09-428-122-2	Alignment Scores: Pred. No.: 1129.00 Matches: Score: 1129.00 Matches: Percent Similarity: 45.7\$ Conservative: 17.1 Mismatches: Query Match: 2 Gaps: 30 INS-10-701-844-1 (1-4435) × INS-09-428-122-2 (1-928)	382	Oy 442 TTAAATGGGGGGGGGGGAAATCATGGTTCCICLAAGAATTTACATGGG 498 1::	Qy 559 TTTTCTGCAGGAGGTTAAAAAATCTTGACAATTCTATTGCCTTTA 618 Db 55 LeuPheLysGlyAsnValThrLeuGluAsnIleProGlyThrdlyThrAlaIleThrLys 74 Qy 619 AGTTGTTTTGGGAACTTATTAGGGAGTTTTACTGTTTTAGGGAGGAGGACGTCGTTGACT 678	Db 75 SerCysPheAsnAsnThrLysGlyAspLeuThrPheThrGlyAsnGlyAsnSerLeuLeu 94 Cy 679 TTCGAGAACATACGGACTTCTACAAATGGGCCAGCTCTAAGTAATAGCGCTGCTGAT 735 Db 95 PheGlnThrValAspAlaGlyThrValAlaGlyAlaAlaValAsnSerSerValValAsp 114	OY 736 GGACTGTTTACTATTGAGGGTTTTAAAGAATTATCCTTTTCCAATTGCAATTACTT 795 115 LysSerThrThrPheileGlyPheSerSerLeuSerPhe	::: :::	149 916 158	178 LeuthrdlythrThrMetSerAlaLeuPheSerGluAsnThrSerSerLysLysGlyGly 1036 GCTTGTCAAGTGACCAGTTTCTCTGCTATGGCTAAGGAGGCTCCTATGCCTTTGTA 1016 GCTTGTCAAGTGACCAGTTTCTCTGCTATGGCCTAAGGAGGCTCCTATTGCCTTTGTA 1017	198 ALALIEGANINISSETASPALALEUNINISTERNISTIGLYANGUAYGIUVALSSELEGE 1096 GCGAATGTTGCAGGAGTAAGAGGGGAAGGGATTGCTGCTGTTCAGGATGGGCAGGGA 216	Oy 1159 GIGIARITH CANADA CONTROL CONTR

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892 yAsnHisPheCysPheAsnSerAsnPheGluAlaPheSerGlnPheSerPheGluLeuAr 912
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1094.50
42.6%
28.6%
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US-09-438-185A-453
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Best Local Similarity:
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                                                                                 ---AAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACA 2454
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AsnProGinSerTyrAspileLeuGluLeuLysAlaSerGlyThrValThrSerThrAla 558
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eGlyIleArgPheAspLysGluSerAspCysGlnAspAlaThrTyrAsnLeuThrLeuGl
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                                    1338 GCCCCATCAGATTTGACTCTAGGGAATGAGATGCCTAAGTATGGCTATCAAGGAAGCTGG
                                                         559 ValThrProAspProlleMetGlyGluLy8Phe---HisTyrGlyTyrGlnGlyThrTrp
                                                                                                       578 GlyProlleValTrpGlyThrGlyAlaSerThrThrAlaThrPhe-------Asn
                                                                                                                              TGGACTAAAACTIGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGT
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LysThrSerIleProTrpValLeuValSerSerValLeuAlaPheSerCysHisLeuGln 60
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Sequence 453, Application US/09438185A

Sequence 453, Application US/09438185A

PREACH NO. 6822071

GENERAL INFORMATION:
APPLICANT: Stephens, Richard
APPLICANT: Mitchell, Wayne
APPLICANT: Mitchell, Wayne
APPLICANT: The Regents of the University of California
TITLE OF INVENTION: Chlamydia Pheumoniae Genome Sequence
TITLE REFERENCE: 018941-000411US
CURRENT FILING DATE: 1998-11-12
PRIOR PILING DATE: 1998-11-12
PRIOR FILING DATE: 1998-11-12
PRIOR FILING DATE: 1998-10-13

PRIOR FILING DATE: 1998-10-13

PRIOR FILING DATE: 1998-10-13

FRIOR FILING DATE: 1998-10-13

FRIOR FILING DATE: 1998-10-13

FRIOR FILING DATE: 1998-10-13

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Conservative:
Mismatches:
Indels:
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हें ह	H-1	o d	1822 CAGCCAGCGCAGIC
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È	TIGITACICAATAATGAGAAGTICTCATACTATAGTAATTAGTCTCTGGAGAAAGAAAAAAAA	3 8	AlaAs
a	snLeuGluAsnIleArgLysLeuValValAlaGlyAsnPheSerThrAlaAspGlyGly	ò	1948 CTTCGTGAAAAGGC
රි සි	952 GCTATAGATGCTAAGAGCTTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAA 1011	qq	:::::: 479 LeuGlnLysGlyVa
è	AATACTGCTCAAGCTGATGGGGGAAGCTTGTCAAGTAGTCACCAGTTTCTCTGCTATGGCT	8 1	2008ATGGAAGCTGG
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ò	AGTITITCCAGADAIACTGCGGTAGAGTITGAIGGGAACGTAGCCCGAGTAGGAGGA :::	qa	534 ThrAlaLysGlyAl
ପ୍ର	IleAlaAsnAbnThrGlyTyrValArgPheLeuSerAsnIleAlaSerThrSerGly	à	2245 GATGATACAGCTTA
8	GGGATTTACTCCTACGGGAACGTTGCTTTCCTGAATAATGGAAAAACCTTGTTTCTCAAC	Ωp	::: 554 GluGlyAsnIleTy
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ą	311 IlePheAlaSerAsnValAlaGluThrSerGlyGlyAlaIleHisAlaLysLysLeuAla 330	3 8	2521 GGATCCATTTAGA
ờ	1534 GTTGCTAACTGTGGCCCTGTACAATTTTTAAGGAATATCGCTAATGAT 1581	3 8	
đ	331 LeuSerSerGlyGlyPheThrGluPheLeuArgAsnAsnValSerSerAlaThrProLys 350	}	
ò	GGTGGAGCGATTTATTTAGGAGAATCTGGAGAGCTCAGTTTATCTGCTGATTATGGAGAT 1641	3 8	
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GATATCGGTATATTAGTGGGGGTTATTCCTTAGGAGCAAACTCCTAC 2700 CTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACATGGACT 2460 ARTCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGTTTATGG 2520 ATATACGATCTGCGCATTCAGCAATTCAAGCAAGTGTGGATGGGCGC 2580 SGATTATGGGTTTCTGGAGTTTCTTCTTTCTATCATGACCGCGAT 2640 rcgargitiggiciagcartiaccgaagtartiggiagarcraaagar 2757 GGAGTACATGGGATTTTGTAACTCCACAACACCACAACAGCCTCCT 2064 CGAATCCTCCTACCAATCCTCCAGCGAAGATTCTCATCCTGCAGTC 2184 CTGCTGGTTCTGTTACAATTAGTGGGCCTATCTTTTTTTGAGGATTTG 2244 AJGATAGGTATGATTGGCTAGGTTCTAATCAAAAAATCAATGTCCTG 2304 GGACTAAGCCCCCAGCTAATGCCCCATCAGATTTGACTCTAGGGAAT 2364 -----AAGTATGGCTATCAAGGAAGCTGGAAG 2400 CTTCCAAACTTCTAAAAATTAACGATGGTGAAGGA----- 1869 CAAAATTATCAGTGAATTCTCTAAGTCAGACAGGTGGGAGTCTGTAT 2007 || ||||||||| :::::|||||| ::: |JyPheTrpValSerSerMetThrAsnPheLeuHisLysThrGlyAsp 687 atcagaticicittaatgatcccatgagatggcaaacggaaataac 1821 || || || ||| ||| ||| ||| |||||||||| |spileArgSerLeuGlnGlnLeuValGluIleGlyAlaThrGlyMet 667 --IleThrIleThrAsnLeuGlyIleAsnValAspSerLeuGlyLeu 527 |||:::||||::: hrIleLeuPheSerGlyGluThrLeuThrAlaAspGluLeuLysVal 458 rgAsnAlalleAsnIleGlySerAsnGlyLysPheThrGluLeuArg 404 | | : : : | | | lythrThrLeuSerThrThrAlaGlySer-----------ATATTGTTTTTGCT------

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GTAAGTTTTTCCAGAAATACT---GCGGTAGAGTTTGATGGGAACGTAGCCCGAGTAGGA 1245
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| MetlysThrSerIleProTrpValLeuValSerSerValLeuAlaPheSerCy8HisLeu 41
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                       Matches:
Conservative:
Mismatches:
Indels:
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US-09-198-452A-478
US-09-198-452A-478
Sequence 478, Application US/09198452A
Patent No. 6552294
GENERAL INFORMATION:
TITLE OF INVENTION: Chlamydia pneumoniae genomic sequence and polypeptides, fragmente
TITLE OF INVENTION: thereof and uses thereof, in particular for the diagnosis, preve
TITLE OF INVENTION: and treatment of infection
TITLE OF INVENTION: and treatment of infection
TITLE OF INVENTION: 1999
CURRENT APPLICATION NUMBER: US/09/198,452A
CURRENT PILING DATE: 1998-11-24
NUMBER OF SEQ ID NOS: 6849
SEQ ID NO 478
LENGTH: 949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTATCCCATCAAGAGACATGGACAACAGATGCCTTTCATTTAGCAAGACATGGAGTTGTG 3297
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                         -----CGTGCTAGCTACGGGTTT 2877
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|SerileProValGlyAlaLysPheValGlnGlyAspIleGlyAspSerTyrThrTyrAsp 887
                                          3178 TTTATGGCGGCTTATATCTGTGATGCTTATCGCACCATCTCTGGTACTGAGACAACGCTC
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OTHER INFORMATION: Xaa=unknown or other
                                                                               CAAGCTTTA----
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1246 242 1306 262	1366	1426	1471	1531	1582	1639	1699	1759	1819	1870	1894	1945	2005	2062	2122	2182	515
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| Patent No. 6559294
| GENERAL INFORMATION:
| TITLE OF INVENTION: Chlamydia pneumoniae genomic sequence and polypeptides, fragments
| TITLE OF INVENTION: Chlamydia pneumoniae genomic sequence and polypeptides, fragments
| TITLE OF INVENTION: and treatment of infection
| TITLE OF INVENTION: and treatment of infection
| FILE REFERENCE: 9710-003-999
| CURRENT APPLICATION NUMBER: US/09/198,452A
| CURRENT PILING DATE: 1999-11-24
| NUMBER OF SEQ ID NOS: 6849
                                                                                                                    GTGGTTAGAGGATCTATGTATGCTTCTCTAACAAGTAATATAGAAGTATATGGCCATGGA 3354
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  LeuValMetSerProAspSerTrpLysIleArgGlyGlyAsnLeuSerArgGlnAlaPhe 908
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3		Db 739 ProLeulleLeuAsnAlaGlnLeuSerTyrTh
qa		Qy 2902 TATACATTTGCAGAGAGAGAGAGAGATGTTCGTTGGGATAA
È	1915 CAAAATGTTACGATAGAAGGAAGGATTGTTCTTCGTGAAAAGGCAAAATTATCAGTG 1974	 759 TyrThrSerTyrProGluAlaGlnGlySerTrpThrAB
qq	GlyAsnVal	Ov 2962 GGAGCGGGATTACCGATTGTGATTACTCCATCTAAGCT
ò	GTCTGTAT	977
qa	461 AsnGlyPheThrGlnThrGluGlySerThrLeuLeu	
Š	2035 GTBACTCCACAACCACAACAACAGCCTCCTGCCGCTAATCAGTTGATCACGCTTTCCAAT 2094	3022
3 8		Db 799 PheLeuLysPheGlnAlaValTyrSerArgGlnGlnAs
20		Qy 3082 GCTCGGGCATTCAAGAGCGGACATCTCCTAAATCTATC
È	2095 CTGCATTTGTTCTTTTTTTTTTTTTTTTTTTTTTTTTTT	Db 819 AlaArgAlaPheAspAspGlyAspLeuValAsnCysSe
qa	491 LeuValValAspLeuSerAlaLeuGluGlyAsnLysSerValSer 505	Qy 3142 GATCGATGTTCTAGTACACATCCTAATAAATATAGCTT
È	2155 CCTCCAGCGCAAGATTCTCATCCTGCAGTCATTGGTAGCACAACTGCTGGT 2205	
QΩ	506	3202
è	2206 TCTGTTACAATTAGTGGGCCTATCTTTTTGAGGATTTGGGATGATACAGCTTATGATAGG 2265	1 (
윤	:::::: :::: 514 ThrlleThrLeuThrSerProLeuValPheGlnAspSerSerGlyAsnPheTyrGlu 532	
łě	2325	Qy 3262 ACAGATGCCTTTCATTTAGCAAGACATGGAGTTGTGGG ::: :: :: :: :: :: :: :: :: :: :: :: ::
ŝ	:::	Db 879 SerteuCysLysAsnLeuAlaArgGlnAlaPheLeuAl
ପ୍ଧ	533SerHisThrIleAsnGlnAlaPheThrGln 542	Qy 3322 CTAACAAGTAATATAGAAGTATATGGCCATGGAAGATI
ò	2326 CCC CCAGCTAATGCCCCATCAGATTTGACTCTAGGG 2361	
ପ୍	eTyr	2362
ò	2362AATGAGATGCCTAAGTATGGCTATCAAGGAAGCTGGAAGCTTGCG 2406	1000
; 2	ThrserProvals	Db 919 IleTyrAsnValAspCy801yLeUArg1yISeffile
3	**************************************	RESULT 31 115-09-438-1852-448
ò	AATGGTCCTTATACTCTGAAAGCTACATGGACTAAA ::::	; Sequence 448, Application US/09438185A
ପ୍ର	583 TrpAlaAspThrSerThrAlaLysSerGlyThrMetThrTrpValThr 598	<u>ы</u> (5
È	2464 ACTGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGTTTATGGGGA 2523	; APPLICANT: Stephens, Richard ; APPLICANT: Mitchell, Wayne
qa	599 ThrGlyTyrAsnProAsnProGluArgArgAlaSerValValProAspSerLeuTrpAla 618	APPLICANT:
È	2524 TCCATTITAGATATACGATCTGCGCATTCAGCAATTCAAGCAAGTGTGGGTGG	APPLICANT: The Reg
qa	:: 619 SerPheThrAspIleArgThrLeuGlnGlnIleMetThrSerGlnAlaAsnSerIleTyr 638	
ઠે	2584 TATIGICGAGGATTATGGGTTTCTGGAGTTTCGAATTTCTTCTATCATGACCGCGATGCT 2643	CURRENT AFFILCATION NUMBER: 05/05/100.
7 1		; PRIOR APPLICATION NUMBER: US 60/108,279 ; PRIOR FILING DATE: 1998-11-12
g ·	,	; PRIOR APPLICATION NUMBER: US 60/128,606
È		, NUMBER OF SEQ ID NOS: 11074
qu	659 ThrasnGinalaPheArgHisLysSerTyrGlyTyrIleValGlyGlySerAlaGluAsp 678	; SOFTWARE: FABLSEQ IOF WINDOWS VEISION 3:0; SEQ ID NO 448
È	2701 TITGGATCATCGATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGATCTAAAGATTAT 2760	; LENGTH: 938 : TYPE: PRT
q	679 PheSerGluAgnIlePheSerValAlaPheCygGlnLeuPheGlyLygAgpLygAgpLeu 698	; ORGANISM: Chlamydia pneumoniae ; PERTURE:
ò	GGATCCGTTTATCTACCCCAACAA 2820) OTHER INFORMATION: CPn0446
ଶ	699 PhelleValGluAsnThrSerHisAsnTyrLeuAlaSerLeuTyrLeuGlnHisArgAla 718	Alignment Scores:
È	2821 GCTTTATGTGGATCCTATTTGTTCGGAGATGCGTTT 2856	
qa	:: pheLeuGlyGlyLeuProMetProSerPheGlySerIleThrAspMetLeuLysAspIle 738	Score: Lorsing: 43.2% Conservative

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TTTATGGGGGCTTATATCTGTGAT 3201
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                                                                                                                                                                                                                                                                               CTATCCCATCAAGAGACATGGACA 3261
                                                                                                                                                                                                                                                                                                                                 GTTAGAGGATCTATGTATGCTTCT 3321
                                                                                         CTCTATTTGAATGAGTTGCGTCCT 3021
                                                                                                                                       TCTTTTACAGAGGCGATCAA 3081 :::||| ||| ||| ::: AsnPheLysGluSerGlyAlaGlu 818
2857 ------ATCCGTGCTACCTACGTTTGGGAATCAGCATATGAAAACCTCA 2901
                                             AATAACTGTCTGGCTGGAGATT 2961
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MetValSerGlyAlaSerTrpThr 878
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| AsnAsnSerGlyAlaLeuGluLeu 778
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ProPhePheGlnGlyTyrPhePro 798
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|ThrLysAsnAspMetAspThrArg 758
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ò	382 AIGCAAACGICTITCCAIAAGITCTITCTATCAAIGAITCTAGCTIAITCTIGCIGCICT 441	;	
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à	442 TTAAATGGGGGGGATATGCAGCAGAAATCATGGTTCCTCAAGGAATTTACGATGGG 498	ÿ #	
셤	::: 28 LeuSerileAlaThrTyrGlyAlaAspAlaSerLeuSerProThrAspSerPheAspGly 47	B &	1500 AIGITECYBAIGHTBETYLEGASDLEGGER
à	499 GAGACGTTAACTGTATCATTTCCCTATACTGTTATAGGAGATCCGAGTGGGACTACTGTT 558	ÿ #	AraCycol yearth
ନ୍ଧ	48 AlaGlyGlySerThrPheThrProLysSerThrAlaAspAlaAsnGlyThrAsnTyr 66	3 8	
č	559 TTTTCTGCAGGAGAGTTAACATTAAAAATCTTGACAATTCTATTGCAGCTTTGCCTTTA 618	\$ E	
ą	67 ValLeuSerGlyAsnValTyrIleAsnAspAlaGlyLysGlyThrAlaLeuThrGly 85	§ &	
È	619 AGTIGITITIGGGAACTIATIAGGGAGTITITACIGITITIAGGAGAGACACICGTIGACI 678	3 f3	α
셤	86 CysCysPheThrGluThrThrGlyAspLeuThrPheThrGlyLysGlyTyrSerPheSer 105	8	TCGG
È	679 TICGAGAACATACGGACTICTACAAATGGGGCGGGCTCTAAGTAATAGCGCTGCTGATGGA 738	3 dd 	376 SerSerAlaLyslleThrAenLeuArgAlaP
a a	106 PheAsnThrValAspAlaGlySerAsnAlaGlyAlaAlaAlaAlaSerThrThrAlaAspLys 125	8	1795 CCCATCGAGATGGCAAACGGAAAT
È	739 CTGTTTACTATTGAGGGTTTTAAAGAATTATCCTTTTCCAATTGCAATTCATTACTTGCC 798	i 6	
a	126 AlaLeuThrPheThrGlyPheSerAsnLeuSerPhe11e 138	<u> </u>	TASA ATTITUTE BASTITUTE BASTITUTE BEST
à	799 GTACTGCCTGCTGCAACGACTAATAAGGGTAGCCAGACTCCGACGACAACA 849	3 5	416 AsnSerProleu
d G	139 AlaAlaProGlyThrThrValAlaSerGlyLysSerThrLeuSerSerAlaGlyAlaLeu 158	} ∂	1894
Š	850 TCTACACCGTCTAARGGTACTATTTATTCTAAAACAGATCTTTTGTTACTCAATAATGAG 909	: A	429 GlyGluLysLeuSerAlaAspGluAlaLysA
අ	159 AsnLeuThrAspAsnGiyThriieLeuPheSerGlnAsnVal 172	È	1915 CAAAATGTTACGATAGAGGAAGGATTC
È	910 AAGTICTCATTCTATAGTAATTTAGTCTCTGGAQATGGGGGGGGCTATAGATGCTAAGAGC 969	අු	::: ::: ::: 449 GlnProLeuAlaLeuAlaSerGlyThrLeuA
ପ୍ଧ	173	8	1975 AATTCTCTAAGTCAGACAGGTGGGAGT
È	970 TTAACGGTTCAAGGAATTAGCAAGCTTTGTGTCTTCCAAGAAAATACTGCTCAAGT1029	: A	::: 469 AsnGlyPheThrdlnThrGluGlySerThr1
e G	188 LeuserIleserdlyAsnThrSerSerIleThrPheThrSerAsnSerAlaLysLysLeu 207	8	2035 GTAACTCCACACCACAAAAAAGCTCCTC
È	1030 GGGGGAGCTTGTCAAGTAGTCACCAGTTTCTCTGCTATGGCTAACGAGGCTCCTATTGCC 1089	qa	
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È	ATGGGCAG	qq	499 LeuvalvalAspLeuSerAlaLeuGluGly
셤		Š	2155 CCTCCAGCGCAAGATTCTCATCCTGCAGTCJ
è	CAGGGAGTGTCATCATCTACTTCAACAGAAGATCCAGTAGTAAGTTTTTCCAGAAATACT	qq	514
a		Š	2206 TCTGTTACAATTAGTGGGCCTATCTT
à	1210 GCGGTAGAGTTTGATGGGAACGTAGCCCGAGTAGGAGGGATTTACTCCTACGGGAAC 1269	qq	
셤	261 Alathrasp 263	è	2266 TATGATTGGCTAGGTTCTAATCAAAAAATC
È	1270 GITGCITTCCIGAATAATGGAAAACCITGTTTCTCAACAATGTTGCTTCTCCTGTTTAC 1329	4 G	
a	263 263	è	
ò	1330 ATTGCTGCTAAGCAACCAACAAGTGGACAGGCTTCTAATACGAGTAATAATTACGGGAT 1389	; f	

1390	GCAGGATCCAATAACTCTGGATCAGTT
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1615	CTCAGTTTATCTGCTGATTATGGAGATATTATTTTGGAGGAATCTTAAAAGAACAGCC 1674 :::
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1735	TCGGGAGGAAAATAACGACATTAAGAGCTAAAGCAGGGCATCAGATTCTCTTTAATGAT 1794
1795	
396	ProllealaSerAsnThrThrGlyAlaSerAspValLeuThrIleAsnGlnProAspSer 415
1834	TCTTCCAAACTTCTAAAAATTAACGATGGTGAAGGATACCAGGGGATATTGTTTTTGCT 1893 ::: AsnSerProLeuAaptyrSerGlyThr11eValPheSer 428
1894	
429	
1915	CAAAATGTTACGATAGAAGGAAGGATGTTCTTCGTGAAAAGGCAAAATTATCAGTG 1974
1975	AATTCTCTAAGTCAGACAGGTGGGAGTCTGTATATGGAAGCTGGGAGTACATGGGATTTT 2034
469	AsnGlyPheThrGluGlySerThrLeuLeu
2035	GTAACTCCACAACCACCACAACAGCCTCCTGCCGCTAATCAGTTGATCACGCTTTCCAAT 2094
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2206	TCTGTTACAATTAGTGGGCCTATCTTTTTGAGGATTTGGATGATACAGCTTATGATAGG 2265
770	CCC Cased account to the contraction of the contrac
2266	TATGATTGGCTAGGTTCTAAAAATCAATIGTCTIGAAATTACAGTTAGGGAAATTAGGGAAATTGAGGAAATTAGGGAAATTAGGGAAATTAGGGAAATTAGGGAAATTAGGGAAATTAGGGAAATTAGAAATTAGGAAATTAGAAAATTAGAAAATTAGAAAATTAGAAATTAGAAATTAGAAATTAGAAATTAGAAATTAG
2326	
551	 ProLeuValValPh
2362	AATGAGATGCCTAAGTATGGCTATCAAGGAAGCTGGAAGCTTGCG 2406

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927 IleTyrAsnValAspCysGlyLeuArgTyrSerPhe 938
                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
Best Local Similarity:
                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                    US-09-438-185A-447
                                                                                                                                                                                                                                                                                                                                                             Alignment Scores:
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                                                                                                                                                                                                                                                                           TITGGATCATCGATGITIGGICTAGCATITACCGAAGIAITIGGIAGAICTAAAGAITAT 2760
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867 ValTyrArgLysAsnProArgSerArgThrSerLeuMetValSerGlyAlaSerTrpThr 886
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                                      TGG----GATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACATGGACTAAA 2463
                                                                                                                                                                              2584 TATTGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTCTTCTATCATGACCGCGATGCT 2643
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747 ProLeuIleLeuAsnAlaGlnLeuSerTyrSerTyrThrLysAsnAspMetAspThrArg 766
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                                                                                                                                                                                                                                             667 ThrasnGlnalaPheargHislysSerTyrGlyTyrIleValGlyGerAlaGluasp 686
                                                                                                                                                                                                                                                                                         727 PheleuglydjyleuProMetProSerPhedjySerlleThrAspMetLeuLysAspIle 746
                                                                                              ::: ::: SerPheThrAspIleArgThrLeuGlnGlnIleMetThrSerGlnAlaAsnSerIleTyr 646
 2962 GGAGCGGGATTACCGATTGTGATTACTCCATCTAAGCTCTATTTGAATGAGTTGCGTCCT
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| 187 GlyGlySerLeuAlaLeuTyrLeuProLysGluAlaProPhePheGlnGlyTyrPhePro
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                                                                                                                                                                                            2464 ACTGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGTTTATGGGGA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   88 SerGlyCysPheLeuGluAlaGlyClyAspLeuThrPheGlnGlyAsnGlnHisAlaLeu
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12 MetLysSerSerValSerTrpLeuPhePheSerSerIleProLeuPheSerSerLeuSer
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                                                                  y GAREAL INFORMATION:
APPLICANT: Stephens, Richard
APPLICANT: Stephens, Richard
APPLICANT: Mitchell, Wayne
APPLICANT: Mitchell, Wayne
APPLICANT: Maiman, Sue
APPLICANT: The Regents of the University of California
APPLICANT: The Regents of the University of California
TITLE OF INVENTION: Chlamydia Pneumoniae Genome Sequence
FILE REFERENCE: 1018941-000411US
CURRENT APPLICATION NUMBER: US/09/438,185A
CURRENT APPLICATION NUMBER: US 60/108,279
PRIOR APPLICATION NUMBER: US 60/128,606
PRIOR PILING DATE: 1999-04-08
PRIOR PILING DATE: 1999-04-08
NUMBER OF SEQ. ID NOS: 1074
SOFTWARE: FREESEQ for Windows Version 3.0
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Matches:
Sequence 447, Application US/09438185A
Patent No. 6822071
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ORGANISM: Chlamydia pneumoniae
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APPLICANT: Mitchell, Wayne
APPLICANT: Mitchell, Wayne
APPLICANT: Kalman, Sue
APPLICANT: Kalman, Sue
APPLICANT: The Regents of the University of California
TITLE OF INVENTION: Chlamydia Pneumoniae Genome Sequence
TITLE OF INVENTION: CHAMPAIGNER: US/09/438,185A
CURRENT APPLICATION NUMBER: US/09/438,185A
CURRENT APPLICATION NUMBER: US 60/108,279
PRIOR PILING DATE: 1998-11-12
PRIOR FILING DATE: 1998-11-12
PRIOR FILING DATE: 1999-408
NUMBER OF SEQ ID NOS: 1074
SEQ ID NO 449
LENGTH: 937
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ORGANISM: Chlamydia pneumoniae
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	=unknown or other 4.8e	Db 130

Qy 3058 Db 807		SAGGAAGGCGATC) 3luargabnthrt)	AAGCTCGGGCATTC ::: nrLeuValArgSerPhe	TCTTTTACAGAGGAAGGCGATCAAGCTCGGGCATTCAAGAGCGGACATCTCCTAAAT 311 	14
0y 3115		CCTGTTGGAGTGA	AGTTTGATCGATGTTCT	CTATCAGTTCCTGTIGGAGTGAAGTTTGATCGATGTTCTAGTACACGTCCTAATAAATA	74
m		SCGCTTATATCT	STGATGCTTATCGCACC		4. 7
UD 84 /		VALLIETYLVALA. CATCAAGAGACAT(idabpvallyfalglyb ggacaacagatgccttt		4,
		AsnAsnThrSerT	 rpLysThrThrGlyThr		و
Qy 329	ю	GGATCTATGTATG	CTTCTCTAACAAGTAAT	GTGGTTAGAGGATCTATGTATGCTTCTCTAACAAGTAATATAGAAGTATATGGCCATGGA 335	54
Db 887		AlaGlyilePheT	rii ii yrAlaPheSerProAsn	 LeuGluValThrSerAsnLeu 906	9
Qy 3355		TATCGAGATGCTT(::: 1.0arc6]yser8	CTCGAGGCTATGGTTTG	AGATATGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGTAGAGTCCGG 341.	14
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RESULT 35 US-09-438-185A-446 Sequence 446, Appli, Patent No. 6822071 GENERAL INPORMATION APPLICANT: Stephen APPLICANT: Mitche, APPLICANT: Mitche, APPLICANT: The Rei, TITLE OF INVENTION INVENTION CURRENT PLING DATE: PRIOR PLICATION INVEN	as : 15 ECO TO TO SEE S	tion US/0: Richard Mayne Sue Daald A1-004111 A1-004111 WUMBER: US 999-04-08 11.09e-82 991.50 991.50 12.68 27.88 12.68	y of Cal Genome SA 0 0 th: hes: atches: 1s: 1s:	California me Sequence Sequence 1414 334 150 150 150 150 1410 150 1510 1410	
376 oy 376		CAAACGICITICC	TGTGTGATGCAAACGTCTTTCCATAAGTTCTTTCTTTCA-	TGTGTGATGCAAACGTCTTTCCATAAGTTCTTTCAATG 417	17
	8 ATTCTAGCT	TATTCTTGCTGCT	418 ATTCTAGCTTATTCTTGCTGCTCTTTAAATGGGGGGGA-:::	TATGCAGCAGAAATCATG	4.

2181 989	22 GCAAACAATGCAGTTACGAATCCTGCTACCTACCTGCAGGGGAAGATTCTCATCCTGCA 84 GlylwaatoMatileilli 84 GlylwaatoMatileilli	212
2121		20 0
2061 964	02 CTGTATATGGAAGCTGGGAGTACATGGGATTTTGTAACTCCACAACCACCACAAGCCT :::::: ::: :: 50 ValPheMetAapAladlyThrThrThrThrThrThrThrThrThrAsn	200
	45 GTTCTTCGTGAAAAGGCAAAATTATCAGTGAATTCTCTAAGTCAGACAGGTGGGAGT	19,
1944 929	91GCTAATGGAAGCAGTACTTTGTACCAAAATGTTACGATAGAGCAAGGAAGG	189
	ow Grandwalland	60 T
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1863 889	.6AATAACCAGCCAGCCAGTCTTCCAAACTTCTAAAAATTAACGATGGT	181
869	::: 50 AlaSerGlyGlyThrIleGluGluLeuValIleAsnProValValLyBAlaIleValPro	8
1815	77 GCAAACGGA	18(
1806 849	56 TTAAGAGCTAAAGCAGGGCATCAGATTCTCTTTAATGATCCCATCGAGATG	175
1755 829	96 AAIGGCGIAACTGTCTCCACAAGCCATTTCGATGGGATCGGGGGGAAAATAACGACA	169
1695 816	636 GGAGATATTATTCGATGGGAATCTTAAAAGAACAGCCAAAGAGAAATGCTGCCGATGTT 169 	163
1635 799	6 AATGATGGGGGGGTTTATTTAGGGGAATCTGGAGAGCTCAGTTTATCTGGTGGTTAT 	157 78
1575 779	6 TATGCCAAAAAGCTCTCGGTTGCTAACTGTGGCCCTGTACAATTTTTAAGGAATATCGCT :::	151
1515 759	6 GATGGAGAGGAGTAGTTTTTTTTTTGTAGCAATGTAGCTGCTGGGAAAGGGGGAGCTATT	145
1455 739	6 GGATCCAATAACTCTGGATCAGTTTCCTTT : :::	142
1425	8AGAATGGTGCGCAAGCA 14 1:: 1:: 1:: 1:: 1:: 1:: 1:: 1:: 1:: 1	140
1407 699	. AGTGGACAGGCTTCTAATACGAGAATAATTACGGAGAATGGAGGAGCTATCTTGT ::: ::	135
1350	AAAACCTTGTTTCTCAACAATGTTGCTTCTCCTGTTTACATTGCTGCTAAGCAACCAAC	1291

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ORGANISM: Chlamydia pneumoniae
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                                                                                CTGAAATTACAGTTA---GGGACTAAGCCCCCAGCTAAT------GCC 2340
                                                                                                      1027 ProPheleuAspLeuSerSerThrSerGlyThrValAsnLeuAspAspPheAsnProlle 1046
                                                                                                                          CCATCAGATTTGACTCTAGGGAATGAGATGCCTAAGTATGGCTATCAAGGAAGCTGGAAG 2400
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            AsnGluGlySerPheTyrAspAsn-----ProGlyLeuLysAlaAsnLeuAsnLeu 1026
GTCATTGGTAGCACAACTGCTTCTGTTACAATTAGTGGGCCTATCTTTTTGAGGAT 2241
                                                                                                                                                                                                                                                                                                                                                                                     2701 TITGGATCATCG---AIGITIGGTCTAGCAITTACCGAAGTATTIGGTAGAICTAAAGAI
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                                1336 uThrLeuGlyTyrAlaValAspAlaTyrArgAspHisProHisCysLeuThrSer---Le 1355
                                                                                                                                            ATCCCATCAGAGACATGGACAACAGATGCCTTTCATTTAGCAAGACATGGAGTTGTGGT 3299
                                                                                                                                                                                                                                                                                                                                                          TAGAGGATCTATGTATGCTTCTCTAACAAGTAATATAGAAGTATATGGCCATGGAAGATA 3359
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGAGTATCGAGATGCTTCTCGAGGCTATGGTTTGAGTGCAGGAAGTAGAGTCCGGTTC 3417
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Sequence 17, Application US/09438185A

Patent NO. 6822071

GENERAL INFORMATION:

APPLICANT: Stephens, Richard

APPLICANT: Kalman, Sue

APPLICANT: Kalman, Sue

APPLICANT: The Regents of the University of California

APPLICANT: The Regents of the University of California

APPLICANT: The Regents of the University of California

TITLE OF INVENTION: Chlamydia Pneumoniae Genome Sequence

FILE REFERENCE: 018941-000411US

CURRENT APLICATION NUMBER: US/09/438,185A

CURRENT PILING DATE: 1998-11-12

PRIOR APPLICATION NUMBER: US 60/108,279

PRIOR PILING DATE: 1999-04-08

NUMBER OF SEQ ID NOS: 1074

SEQ ID NO 17

LENGTH: 780

LENGTH: 780
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È	1204 AAT		
QQ Q	22	GlyAlaAlaIlePheThrGlu 83	
ò	1264 GGG	GTTGCTTCTCCT	
q	84 Ala	AlaSerValThrIleSerAsnAsnAlaLysValSerPheIleAspAsn 99	
ò	1324 GTT	GTTTACATTGCTGCTAAGCAACCAACAAGTGGACAGGCTTCTAATACGAGTAATAATTAC 1383	
qq	100	LysValThrGlyAlaSerSerThrThrGlyAspMet 112	
ò	1384 GGA	GGAGATGGAGGAGCTATCTTCTGTAAGAATGGTGCGCAAGCAGCAGGATCCAATAACTCTGGA 1443	_
qa	113	SerGlyGlyAla11eCysAlaTyrLy8ThrSerThrAspThr 126	
È	1444 TCA	TCAGTTTCCTTTGATGGAGGGAGTAGTTTTTAGTAGCAATGTAGCTGCTGGGAAA 1503	
qq	127 Lye	::: LysvalThrLeuThrGlyAsnGlnMetLeuLeuPheSerAsnAsnThrSerThrThrAla 146	
È	1504 GGG	GGGGGGGCTATTTATGCCAAAAGCTCTCGGTTGCTAACTGTGGCCCTGTACAATTTTTA 1563	
QQ	147 Gly	GlyglyalailefyrvaltysfysbeuglubeualaSerGlyglybeuThrteuPheSer 166	
ò	1564 AGG	AGGAATATCGCTAATGATGGTGGAGCGATTTATTTAGGAGAATCT 1608	
q	167 Arg	 ArgabnSerValAsnGlyGlyThralaProLysGlyGlyAlaIleAlaIleGluAspSer 186	
È	1609 GGA	GGAGAGCTCAGTTTATCTGCTGATTATGGAGATATTATTTTTCGATGGGAATCTTAAAAGA 1668	
οp	187 Gly		
ò	1669 ACA	ACAGCCAAAGAGAATGCTGCCGATGTTAATGGCGTAACTGTGTCCTCACAAGCCATTTCG 1728	
QQ	204 Thr	 ThrValThrSerThrThrProGlyThrAsnArgSerSerIleAsp 218	
È	1729 ATC	GGATCGGGAGGGAAAATAACGACAT	_
Op	::: 219 Leu(::: ::: LeuGlyThrSerAlaLysMetThrAlaLeuArgSerAlaAlaGlyArgAlaIleTyrPhe 238	
È	1789 AAT	AATGATCCCATCGAGATGGCAAAACGGAAATAACCAGCCAG	·
q	239 Tyr	TyrAspProlleThrThrGlySerSerThrThrValThrAspValLeu 254	
ò	1849 AA	AAAATTAACGATGAGGATACACAGGGGATATTGTTTTGCT 1893	
qq	255 Lye	::: ::: LysValAsnGluThrProAlaAspSerAlaLeuGlnTyrThrGlyAsnIleIlePheThr 274	
È	1894	AATGGAAGCAGTACTTTGTAC 1914	
qq	275 Gl)	GlyGluLysLeuSerGluThrGluAlaAlaAspSerLysAsnLeuThrSerLysLeuLeu 294	
ò	1915 CA	AGAGCAAGGAAGGATTGTTCT	_
Ор	295 Glr	::: GinProvalThrLeuSerGlyGlyThrLeuSerLeuLyBHisGlyValThrLeuGlnThr 314	
ò	1975 AA	AATTCTCTAAGTCAGACAGGTGGGAGTCTGTATATGGAAGCTGGGAGTACATGGGAT 2031	
Ωp	315 Gl	GlnalapheThrGlnGlnAlaAspSerArgLeuGluMetAspValGlyThrThrLeuGlu 334	
È	2032 TT	TTTGTAACTCCACAACCACACAAACAGCCTCCTGCCGCTAATCAGTTGATCACGCTTTCC 2091	
qq	335	 ThrileAsn 342	
ò	2092 AA	AATCTGCATTTGTCTCTTCTTTGTTAGCAAACAATGCAGTTACGAATCCTCCTACC 2151	
qq	343 ABI	 AbnLeuvallleAbnIleSerSerIle351	
È	2152 AA	AATCCTCCAGCGCAAGATTCTCATCCTGCAGTCATTGGTAGCACAACTGCTGGTTCT 2208	
qq	352	AspGlyAlaLysLysAlaLysIleGluThrLysAlaThrSerLysAsn 367	
ò	2209 GT	GTTACAATTAGTGGGCCTATCTTTTTGAGGATTTGGATGATACAGCTTATGATAGGTAT 2268	

2683 TTAGGAGCAAACTCCTACTTTGGATCA---TCGATGTTTGGTCTAGCATTTACCGAAGTA 2739 2740 TITGGTAGATCTAAAGATTATGTAGTGTGTCGTTCCAATCATCATGCTTGCATAGGATCC 2799 2800 GITTATCTATCTACCCAACAAGCTTTATGTGGATCCTATTTGTTCGGAGATGCGTTTATC 2859 2877 TGGGAATCAGCATATGAAAACCTCATATACATTTGCAGAGGAGAGAGGGATGTTCGTTGGGA 2936 2937 TAATAACTGTCTGGCTGGAGAGATTGGAGCGGGATTACCGATTGTGATTACTCCATCTAA 2996 2997 GCTCTATTTGAATGAGTTGCGTCCTTTCGTGCAAGCTGAGTTTTCTTATGCCGATCATGA 3056 CTTTATGGCGGCTTATATCTGTGATGCTTATCGCACCATCTCTGGTACTGAGACAACGCT 3236 2623 TICTATCATGACCGCGATGCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGTTATTCC 2682 ------ AGCTACGGGTT 2876 GATTGGCTAGGTTCTAATCAAAAATCAATGTCCTGAAATTACAGTTA---GGGACTAAG 2325 CAAGGAAGCTGG----AAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCTTATACT 2442 2503 GTTCCAAATAGTTTTATGGGGATCCATTTTAGATATACGATCTGCGCATTCAGCAATTCAA 2562 : nLeuThrLeuGlyTyrThrValAspLeuValArgSerAsnProAspCysThrThrThrLe 720 ::: :: |||||| |||||| 601 sThrAspAsnAspLeuLysThrLysThrThrTyrProThrValLysGlySerTrpGl 621 621 yAsnAspSerPheAlaLeuGluPheGlyGlyArgAlaProlleCysLeuAspGluSerAl 641 388 Ser---LeuargasnProglnSerTyrAspIleLeuGluLeuLysAlaSerGlyThrval |||||||:::||| 426 GlnGlyThrTrpGlyProlleValTrpGlyThrGlyAlaSerThrThrAlaThrPhe---2563 GCAAGTGTGGATGGCGCTCTTATTGTCGAGGATTATGGGTTTCTGGAGTTTCGAATTTC 326 CCCCCAGCTAATGCCCCCATCAGATTTGACTCTAGGGAATGAGATGCCTAAGTATGGCTAT 2860 CGTGCT-----3177 700 2386 482 368 407

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CGTAACTGTGTCCTCACAAGCCATTTCGATGGGATCGGGAGAAAATAACGACATTAAG 1760
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eSerSerGlyGlyProThrLeuPheIleAsnAsnIleSerTyrAlaAsnSerGlnAsnLe 332
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236 uTyrSerAspGlyAspIleAspIleAspGlnAsnAlaTyrValLeuPheArgGluAsnGl 256
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1374 TAATAATTACGGAGATGGAGGAGCTATCTTCTGTAAGAATGGTGCGCAAGCAGGATCCAA
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                                                 GGTTAGAGGATCTATGTATGCTTCTCTAACAAGTAATATAGAAGTATATAGGCCATGGAAG 3356
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                                                                                          740 iLeuArgAlaGlyAsnHisPheCysPheAsnSerAsnPheGluAlaPheSerGlnPheSe 760
                                                                                                                                                                      TCAAGGAATTTACGATGGGGAGACGTTAACTGTATCATTTCCCTATACTGTTATAGGAGA 539
    720 uArgIleSerGlyAspSerTrpLysThrPheGlyThrAsnLeuAlaArgGlnAlaLeuVa 740
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61 -GlnalaGlyAspValTyrSerLeuThrGlyAspValSerIleSerAsnValAspAsnSe 80
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APPLICANT: Stephens, Richard
APPLICANT: Mitchell, Wayne
APPLICANT: Kalman, Sue
APPLICANT: Kalman, Sue
APPLICANT: Take Rogents of the University of California
TITLE OF INVENTION: Chlamydia Pneumoniae Genome Sequence
TITLE OF INVENTION: CHLamydia Pneumoniae Genome Sequence
FILE REPERENCE: 1018941-000411US
CURRENT APPLICATION NUMBER: US/09/438,185A
CURRENT FILING DATE: 1998-11-12
PRIOR PILING DATE: 1998-11-12
PRIOR FILING DATE: 1998-11-12
PRIOR FILING DATE: 1999-04-08
NUMBER OF SEQ ID NOS: 1074
SEQ ID NOS: 1074
LENGTH: 932
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US-09-438-185A-6
1 Sequence 6, Application US/09438185A
2 Patent No. 6822071
1 GENERAL INFORMATION:
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Qy 2760 TGTAGTCT	Db 704 Qy 2862 TGCTAGC- Db 720 rAlaSerF	2869	Qy 2901 ATATACAN Db 760 pTyralad Ov 2961 TGGAGGGG	780	Db 800 oPheMet)	820	840		880		920	RESULT 38 US-09-198-452A-15 ; Sequence 15, Applic ; Patent No. 6559294	GENERAL INFORMATION ; APPLICANT ; TITLE OF INVENTION ; TITLE OF INVENTION		SEQ ID NO 15 LENGTH: 922 TYPE: PRT ORGANISM: Chlamyd	; FAATURE: ; NAME/KEY: SITE ; LOCATION: 1922
ylleHisLeuLeuGlnAsnAlabysPheLeuLysLeuGl AGCTAAAGCAGGCATCAGATTCTCTTTAATGATCCCATCGAGATGGCAAACGGAAATAA : :::	1821 CCAGCCAGCCAAACTTCTAAAATTAACGAUGGTAAGGATA 18/1 394 rSerGluAlaAspGlySerThrGlnLeuAsnIleAsnGlyAspProLysAsnLysGluTy 414 1872 CACAGGGGATATTGTTTTGCT	414	AAAATTATCAGTGAATTCTCTAAGTCAGACAGGTGGGAGTCTGTATATGGAAGCTGG		2079 GAICACGCTTTCCAATCTGCATTTGTCTTTCTTTGTTAGCAAACAATGCAGTTAC 2138 ::::: ::::: ::: 483 pileAlaileThrGlyLeuAlaileAspileAspSerLeu	2139 GAATCCTCCTACCAATCCTCCAGCGCAAGATTCTCATCCTGCAGTCATTGGTAGCACAAC 2198 :::	2199 TGCTGGTTCTGTTACAATTAGTGGGCCTATCTTT		2292 AATCAATGTCCTGAAATTACAGTTAGGGACTAAGCCCCCAGCTAATGCCCCATCAGATTT 2351 ::: ::: 540 rPheProLeuLeuSerLeuGluProGlyAlaGlyGlySerValThrVa 556	2352 GACTCTAGGGAATGAGATGCCTAAGTATGGCTATCAAGGAAGGTGGAAGCT 2402 	2403 IGCGIGGGAICCIDAIACAGCAAAIAAIGGICCITAIACICIGAAAGCIACAIGGACIAA 2462		2523 ATCCATTTTAGATATACCATTCGCCATTCAGCAATTCAAGCAAG	TTATTGTCGAGGATTATGGGTTTTCTGAATTTCTTCTATCATGACGCGATGC 2642 		2703 TGGATCATGTTTGGTCTAGGATTACCGAAGTATTTGGTAAATCTAAAGATTA 2759
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ą	740	oLeuMetIlePheHisPheLeuCysAlaTyrGlyHisAlaThrAsnAspMetLygThrAs 760	
≱	2901	ATATACATTTGCAGAGGAGGAGGATGTTGGTTGGGATAATAACTGTCTGGCTGG	
ð	160	plyralaasnPheProMetValLysAsnSerTrpargasnAsnCysTrpalaIleGluCy 780	
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≿:	3081	AGCTCGGGCATTCAAGAGCGGACATCTCCTAAATCTATCAGTTCCTGTTGGAGTGAAGTT 3140	
ą	820	pGlyArgArgPheSerAsnGlySerLeuThrSerlleSerValProLeuGly1leArgPh 840	
≿:	3141	TGATCGATGTTCTAGTACACATCCTAATAAATATAGGTTTTATGGCGGCTTATATCTGTGA 3200	_
ą	840		
<i>≿</i> ;	3201		_
ą	860	pilephearglysaspproserCysGlualaalaLeuValileserGlyAspSerTrpLe 880	
⋩	3261	3261 AACAGATGCCTTTCATTTAGCAAGACATGGAGTTGGTTAGAGGATCTATGTATG	_
ą	880	uValProAlaAlaHisValSerArgHisAlaPheValGlySerGlyThrGlyArgTyrHi 900	
à	3321	3321 TCTAACAAGTAATATAGAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCTCG 3380	_
q	900	вРhедвпавртуттhrGluLeuCувдrgGlySerIleGluCysArgProHisAlaAr 920	
à	3381	3381 AGGCTATGGTTGAGTGCAGGAAGTAGAGTCCGGTTC 3417	
Q	920	gAsnTyrAsnIleAsnCysGlySerLysPheArgPhe 932	
RESULT 3 US-09-19; Sequent; Patent	LT 38 9-198-452A-15 Tuence 15, Ap tent No. 6559	SULT 38 -09-198-452A-15 Sequence 15, Application US/09198452A Patent No. 6559294	

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(b) Ranydia pneumoniae genomic sequence and polypeptides, fragment

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850 pilePheArgLysAspProSerCysGluAlaAlaLeuValileSerGlyAspSerTrpLe 870
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ORGANISM: Chlamydia pneumoniae
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943.50
39.5%
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US-09-438-185A-15
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Best Local Similarity:
                                                                                                                                                                                  US-09-438-185A-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alignment Scores:
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-----MetArgAsnSerGlnTh
                                                                                                    AATCAATGTCCTGAAATTACAGTTAGGGACTAAGCCCCCCAGCTAATGCCCCATCAGATTT
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                     519 aTyrGluAspLeuArg------
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3321 TCTAACAAGTAATATAGAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCTCG 3380
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                                             Sequence 15, Application US/09438185A
; Sequence 15, Application US/09438185A
; Patent No. 6822071
; GENERAL INFORMATION:
    APPLICANT: Stephens, Richard
    APPLICANT: Mitchell, Wayne
    APPLICANT: Mitchell, Wayne
    APPLICANT: Falman, Sue
    APPLICANT: The Regents of the University of California
    APPLICANT: The Regents of the University of California
    APPLICANT: The Regents of the University of California
    APPLICANT: The Regents of the University of California
    APPLICANT: The Regents of the University of California
    APPLICANT: The Regents of 10894-00411US
    CURRENT APPLICATION NUMBER: US/09/438,185A
    CURRENT FILING DATE: 2002-03-13
    PRIOR FILING DATE: 1998-11-12
    PRIOR PLICATION NUMBER: US 60/128,606
    PRIOR PLICATION NUMBER: US 60/128,606
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100 10 11 11 11 12 13 13 13 13

Query Match: 10.5% Indels: 365 DB: 2 Gaps: 35 US-10-701-844-1 (1-4435) x US-09-198-452A-466 (1-1132)	OY 493 GATGGGGAGACGTTAACTGTATCATTTCCCTATACTGTTATAGGAGATCCGAGTGGGACT 552	553 ACTGTTTTTCTGCAGGGAGTTAAAAAATCTTGACAATTCTATTGCAGCTTTG	Qy 613 CCTTTAAGTIGTTTTGGGAACTTATTAGGGAGTTTTTACTGTTTTAGGGAGACACTCG 672 Db 75 AgDLysSerCysPheThrAsnThrGlyGlyAlaLeuSerPheValGlyAlaAspHisSer 94	Oy 673 TIGACTITCGAGAACATACGGACTICTACAAATGGGGGAGCTCTAAGTAATAGCGCTGCT 732	Qy 733 GATGGACTGTTTACTATTGAGGGTTTTAAAGAATTATCCTTTTCCAATTGCAATTCATTA 792	Qy 793 CTT795	Qy 795 795 795 Db 145 AenThrGluGlyGlyThrAlaThrPheThrAspAenAlaSerValThrLeuGlnLy8Aen 164	Qy 795 795 795 Db 165 ThrSerGluLysAepGlyAlaAlaValSerAlaTyrSerIleAepLeuAlaLysThrThr 184	Qy 796GCGTACTGCCTGCT 810 ::: Db 185 ThrAlaAlaLeuLeuAspGlnAsnThrSerThrLysAsnGlyGlyAlaLeuCysSerThr 204	OY 811 GCAACGACTAATAAGGCTAGCCAGACTCCGACGACAACATCTACA 855	Qy 856 CCGTCTAATGGTACTATTTATTCT	Qy 879	Cy 879 879 Db 285 AlaGlnAlaAsnAsnProGluGlyCysGlyGlyAlaIleCysCysTyrLeuAlaThrAla 304	Qy 880AAAACAGATCTTTGTTACTCAATAATGAGAAGTTCTCATTCTATAGTAATTTA 933	OY 934 GTCTCTGGAGATGGGGAGCTATAGATGCTAAGGAGGTTCAAGGAATTAGCAAG 993 ::::::	994 CTTTGTGTCTTCCAAGAAAATACTGCTCAAGCTGATGGGGGAGCTTGTCAAGTAGTC	Db 345 LeuThrPheAspGlnAsnThrAlaThrAlaGlyCysGlyGlyAlaIleTyrThrGlu 363
OY 2797 TCCGTTTATCTACCCAACAAGCTTTATGTGGATCCTATTTGTTCGGAGAT 2850 -::	2851 GCGTTTATCCGT	DD 657 GLYGLYLEUALIGGIUITEDEGLEGIUNG PARAGETING PARAGET	2905	2959 ATTGGAGCGGGATTACCCGATTGTGATTACTCCATCTAAGCTCTATTTGAATGAGT	Qy 3019 CCTTTCGTGCAAGTTTTCTTATGCCGATCATGAATCTTTACAGAGGAAGGCGAT 3078	Qy 3079 CAAGCTCGGGCATTCAAGAGCGGACATCTCCTAAATCTATCAGTTCCTGTTGGAGTGAAG 3138	Qy 3139 TTTGATCGATGTTCTAGTACACATCCTAAAAATATAGCTTTATGGCGGCTTATATGTGT 3198 ::::	Qy 3199 GATGCTTATCGCACCATCTCTGGTACTGAACGCTCCTATCCCATCAAGAGACATGG 3258	Qy 3259 ACAACAGATGCCTTTCATTTAGCAAGACATGGAGTTGTGGTTAGGATCTATGTATG	Qy 3319 TCTCTAACAAGTAATATAGAAGTATATGGCCATGGAAGATATGAGTATCGAGATGCTTCT 3378 ::: :::	Oy 3379 CGAGGCTATGGTTTGAGTGCAGGAAGTACGGTTC 3417	ptides, frag	eof, in particular for t ction	; CURRENT FILING DATE: 1998-11-24 ; NUMBER OF SEQ ID NOS: 6849 ; SEQ ID NO 466 ; LENGTH: 1132	; TYPE: PRT ; ORGANISM: Chlamydia pneumoniae US-09-198-452A-466	Length: Matches:	t Similarity: 37.1% ocal Similarity: 26.5%

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2175 2235 2455 TGGACTAAAACTGGGTATAATCCTGGGCCTGAGCGAGTAGCTTCTTTGGTTCCAAATAGT 2514 2575 GGGCGCTCTTAITGTCGAGGATTAIGGGTTTCTGGAGTTTCGAATTTCTTCTATCATGAC 2634 2635 CGCGATGCTTTAGGTCAGGGATATCGGTATATTAGTGGGGGTTATTCCTTAGGAGCAAAC 2694 TCCTACTTTGGATCATCG---ATGTTTGGTCTAGCATTTACCGAAGTATTTGGTAGATCT 2751 ------GCTAATGGAAGCAGTACTTTGTACCAAAATGTTACGATAGAGCAAGGA 1938 2236 GAGGATTTGGATGATACAGCTTATGATAGGTATGATTGGCTAGGTTCTAATCAAAAATC 2295 2395 TGGAAGCTTGCGTGGGATCCTAATACAGCAAATAATGGTCCTTATACTCTGAAAGCTACA 2454 1999 AGT---CTGTATATGGAAGCTGGGAGTACATGGGATTTTGTAACTCCACAACCACACAA 2055 2296 AATGTCCTGAAATTACAGTTA---GGGACTAAGCCCCCAGCTAAT------ 2337 2338 ---GCCCCATCAGATTTGACTCTAGGGAATGAGATGCCTAAGTATGGCTATCAAGGAAGC 2394 -------AATAACCAGCCAGCGCAGTCTTCCAAACTTCTAAAATTAAC 1857 769 1939 AGGATTGTTCTTCGTGAAAAGGCAAAATTATCAGTGAATTCTCTAAGTCAGACAGGTGGG 1998 869 922 |||:::||| 710 AlaProAlaSerGlyGlyThrIleGluGluLeuValIleAsnProValValLysAlaIle 729 ::: ||| ||| ||| :::::::||| :::
------ABNThrAspGlySerIleAspLeuLysABNLeuSerValAsnLeuAspAla 843 887 AshleuProPheleuAspleuSerSerThrSerGlyThrValAshleuAspAspPheAsn 906 923 TrpThrLeuVal-----ProLysValGlyAlaGlyGlyLysValThrLeuValAlaGlu 940 750 ProAlaAsnProAsnThrGlyThrIleValPheSerSerGlyLysLeuProSerGlnAsp 2056 CAGCCTCCTGCCGCTAATCAGTTGATCACGCTTTCCAATCTGCATTTGTCTCTTTTCTTCT 2116 TIGITAGCAAACAATGCAGTTACGAATCCTCCTACCAATCCTCCAGCGCAAGATTCTCAT 730 ValProProProGlnProLysAsnGlyProlleAlaSerValProValValProValAla 2176 CCTGCAGTCATTGGTAGCACAACTGCTGGTTCTGTTACAATTAGTGGGCCTATCTTTTTT 1858 GATGGTGAAGGATACACAGGGGATATTGTTTTT-------1891 827

1041 LysAspTyrValValSerAspIleLysSerGlnValTyrAlaGlySerLeuCys 1058	2812 ACCCAACAAGCTTTATGTGGATCCTATTTGTTGGGATGGGTTTATCCGTGCTAGCT 2869	AlaGlnSerSer-TyrVallleProLeuHisSerSerLeuArgArgHisValLeuSer 1077
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Search completed: May 13, 2006, 10:40:44 Job time : 424 secs



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Sequence 43,
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            GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd.
                                                                                     May 13, 2006, 12:20:04 ; Search time 48 Seconds
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1: /cgn2_6/prodata1/laa/5_COMB.pep:*

2: /cgn2_6/prodata1/laa/6_COMB.pep:*

3: /cgn2_6/prodata1/laa/H_COMB.pep:*

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5: /cgn2_6/prodata1/laa/RE_COMB.pep:*

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Gapop 10.0 , Gapext 0.5
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; Sequence 2, Application US/09612402B
; Patent No. 6642023
; GENERAL INFORMATION:
; APPLICANT: Jackson, W. James
; APPLICANT: Dace, John
; TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
; Patent No. 6642023
; PATENT NO. 6642023
; PRICHENT APPLICATION NUMBER: US/09/612,402B
; CURRENT APPLICATION NUMBER: US/09/612,402B
; PRIOR PLING DATE: 1997-10-02
; PRIOR APPLICATION NUMBER: 08/942,596
; PRIOR PRING DATE: 1997-10-02
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO
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ORGANISM: Chlamydia sp
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                                  SAGELTLKNLDNSIAALPLSCFGNLLGSFTVLGRGHSLTFENIRTSTNGAALSNSAADGL
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EGVVFPSSNVAAGKGGAIYAKKLSVANCGPVQFLRNIANDGGAIYLGESGELSLSADYGD
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Patent No. 6887843
GENERAL INFORMATION:
APPLICANT: Jackson, W. James
APPLICANT: Pace, John L.
ITLE OF INVENTION: CHLAMYDIA PROTEIN, GENE SEQ
FILE REFERENCE: 7969-99
CURRENT APPLICATION NUMBER: US/09/542,520
CURRENT FILING DATE: 2000-04-03
PRIOR PILICATION NUMBER: PCT/US98/20737
PRIOR PILING DATE: 1999-10-01
NUMBER OF SEQ ID NOS: 41
SOFTWARE: PATENTIN Ver: 2.0
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100.0%; Score 5267;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 1012; Conservative 0; Mismatches
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f ORGANISM: Chlamydia
US-09-542-520-2
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US-09-612-402B-15
US-09-612-402B-15
Sequence 15. Application US/09612402B
FRATENT NO. 6642023
GENERAL INFORMATION:
APPLICANT: Backson, W. James
TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
FILE REPERENCE: 7969-086-999
CURRENT APPLICATION NUMBER: US/09/612,402B
CURRENT FILING DATE: 2000-07-06
PRIOR PILING DATE: 1997-10-02
NUMBER OF SEQ ID NOS: 43
SOUTHAND NOS: PATENTION NUMBER: 08/942,596
PRIOR FILING DATE: 1997-10-02
NUMBER OF SEQ ID NOS: 43
                            1 MQTSFHKFFLSMILAYSCCSLNGGGYAABIWVPQGIYDGBTLTVSFPYTVIGDPSGTTVF
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Best Local Similarity 96.7
Matches 980; Conservative
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ORGANISM: Chlamydia sp.
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US-09-612-402B-15
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TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof Patent No. 6642023
FILE REFERENCE: 7969-086-999
FILE REFERENCE: 7969-086-999
CURRENT APPLICATION NUMBER: US/09/612,402B
CURRENT FILING DATE: 1900-07-06
PRIOR APPLICATION NUMBER: 08/942,596
PRIOR PILING DATE: 1997-10-02
NUMBER OF SEQ ID NOS: 43
SOFTWARE: Patentin version 3.0
SEQ ID NO 43
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100.0%; Pred. No. 0;
ive 0; Mismatches
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Best Local Similarity 100.0°
Matches 984; Conservative
                                                                                                                                                          TYPE: PRT
ORGANISM: Chlamydia sp.
                                                                                                                                                                                     US-09-612-402B-43
                                                                                                                                               LENGTH: 984
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Patent No. 6887643
GENERAL INFORMATION:
APPLICANT: Pace, John L.
TITLE OF INVENTION: CHLAWYDIA PROTEIN, GENE SEG
FILE REFERENCE: 7969-076-99
CURRENT APPLICATION NUMBER: US/09/542,520
CURRENT FILING DATE: 2000-04-03
PRIOR PELLING DATE: 1998-10-01
NUMBER OF SEQ ID NOS: 41
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US-09-542-520-15
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Patent No. 6642023

GENERAL INFORMATION:

APPLICANT: Packson, W. James

APPLICANT: Packson, W. James

APPLICANT: Packson, W. James

TILE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof

FILE REFERENCE: 7969-086-999

CURRENT PAPLICATION NUMBER: US/09/612,402B

CURRENT PILING DATE: 2000-07-06

PRIOR APPLICATION NUMBER: 08/942,596

PRIOR PILING DATE: 1997-10-02

NUMBER 09 SEQ ID NOS: 43

SOFTWARE: Patentin version 3.0

SEQ ID NO 16:
                                                                            541 SLYMEAGSTLDFVTPQPPQQPPAANQSITLSNLHLSLSSLLANNAVTNPPTNPPAQDSHP
                                                                                                                                        GLAFTEVFGRSKDYVVCRSNHHACIGSVYLSTKQALCGSYVFGDAFIRASYGFGNQHMKT
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               SLYMEAGSTWDFVTPQPPQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDSHP
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Best Local Similarity 96.7%; Pred. No. 0;
Matches 980; Conservative 15; Mismatches 17; Indels
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ORGANISM: Chlamydia sp.
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US-09-612-402B-16
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901 QARAFRSGHLMNLSVPVGVKFDRCSSTHPNKYSFWGAYICDAYRTISGTQTTLLSHQETW 960
                                                                                 US-09-542-520-16

US-09-542-520-16

US-09-542-520-16

Sequence 16, Application US/09542520

Parent No. 6887843

GENERAL INFORMATION:

APPLICANT: Jackson, W. James

APPLICANT: Dace, John L.

TITLE OP INVENTION: CHLAMYDIA PROTEIN, GENE SEQUENCE AND USES THEREOF

TITLE PRIVENT PLING DATE: 1969-076-99

CURRENT FILING DATE: 2000-04-03

PRIOR APPLICATION NUMBER: PCT/US98/20737

PRIOR PLING DATE: 1998-10-01

NUMBER OF SEQ ID NOS: 41

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 6:
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                        TTDAFHLARHGVVVRGSMYASLTSNIEVYGHGRYBYRDASRGYGLSAGSRVRF
                                 TTDAFHLARHGVIVRGSMYASLTSNIEVYGHGRYEYRDTSRGYGLSAGSKVRF
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Best Local Similarity 96.73
Matches 980; Conservative
                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Chlamydia
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97.0%; Score 5106.5;
Best Local Similarity 96.7%; Pred. No. 0;
Matches 980; Conservative 17; Mismatches
      SOFTWARE: Patentin Ver
SEQ ID NO 15
LENGTH: 1013
TYPE: PRT
ORGANISM: Chlamydia
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                                                                                                      325 SNNYGDGGAIPCKNGAQAGSNNSGSVSFDGEGVVFFSSNVAAGKGGAIYAKKLSVANCGP
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| Sequence 190, Application US/09620412C
| Patent No. 6448234
| GENERAL INFORMATION: Pling
| TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATMENT AND
| TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION
| FILE REFERENCE: 210121.46907.
| CURRENT APPLICATION NUMBER: US/09/620,412C
| CURRENT PILING DATE: 2000-07-20
| NUMBER OF SEQ ID NOS: 363
| SOFTWARE: PastSEQ for Windows Version 3.0/4.0
| SEQ ID NO 190
| LENGTH: 1006
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96.6%; Score 5090; D
Best Local Similarity 99.7%; Pred. No. 0;
Matches 979; Conservative 2; Mismatches
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CORGANISM: Chlamydia
US-09-620-412C-190
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US-09-620-412C-190
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                                                                      GNEMPKYGYQGSWKLAMDENTANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGSILDI
                                                                                                                                        SYTFAGESDVRWDNNCLVGEIGVGLPIVTTPSKLYLNBLRPFVQAEFSYADHESFTEEGD
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GNEMPKYGYQGSWKLAMDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGSILDI
                                                                                                                     RSAHSAIQASVDGRSYCRGLWVSGVSNFFYHDRDALGQGYRYISGGYSLGANSYFGSSMF
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Pred. No. 0;
2; Mismatches 1; Indels 0;
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APPLICANT: Bhatia, Ajay
APPLICANT: Bhatia, Ajay
APPLICANT: Bhatia, Ajay
APPLICANT: Bling, Vasir
APPLICANT: Fling, Vasir
APPLICANT: Fling, Compositions and Methods For Treatment of Invention: Diadanosis OF CHLAMYDIAL INPECTION
TITLE OF INVENTION: DIAGANOSIS OF CHLAMYDIAL INPECTION
FILE REFERENCE: 210121.469C5
CURRENT APPLICATION NUMBER: US/09/556,877
CURRENT PILING DATE: 2000-04-19
NUMBER OF SEQ ID NOS: 305
SOFTWARE: FastSEQ for Windows Version 3.0/4.0
SEQ ID NO 190
LENOTH: 1006
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Best Local Similarity 99.77
Matches 979; Conservative
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ORGANISM: Chlamydia
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                                                                   TYPE: PRT
ORGANISM: Chlamydia
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      NTAQADGGACQVVTSFSAMANEAPIAFVANVAGVRGGGIAAVQDGQQGVSSSTSTEDPVV
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RESULT 10 US-09-598-419-190 ; Sequence 190, Application US/09598419

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GENERAL INFORMATION:
APPLICANT: Skeiky, Yasir A.W.
APPLICANT: Schollet, John
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR TREATMENT AND
TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION
TITLE OF INVENTION: UNANOSIS OF CHLAMYDIAL INFECTION
CURRENT APPLICATION NUMBER: US/09/598,419
CURRENT FILING DATE: 2000-06-20
NUMBER OF SEQ ID NOS: 357
SOFTWARE: FastSEQ for Windows Version 3.0/4.0
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## Patent No. 6448234

## GENERAL INFORMATION:

## APPLICANT: Steven

## TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATMENT AND

## TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION

## TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION

## TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION

## CURRENT APPLICATION NUMBER: US/09/620,412C

## CURRENT FILING DATE: 2000-07-20

## SOFTWARE: FastSEQ for Windows Version 3.0/4.0

## SEQ ID NO 176

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96.5%; Score 5084; E
Best Local Similarity 99.6%; Pred. No. 0;
Matches 978; Conservative 2; Mismatches
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NAME/KEY: VARIANT
LOCATION: (1) ... (982)
OTHER INFORMATION: Xaa = Any Amino Acid
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ORGANISM: Chlamydia
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APPLICANT: Broise, Ajay
APPLICANT: Bhatia, Ajay
APPLICANT: Bhatia, Ajay
APPLICANT: Braing, Mason
APPLICANT: Filiay, Mason
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATMENT AND
TITLE OF INVENTION: COMPOSIS OF CHLAMYDIAL INFECTION
TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION
TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION
TITLE OF INVENTION NUMBER: US/09/556,877
CURRENT FILING DATE: 2000-04-19
NUMBER OF SEQ ID NOS: 305
NUMBER OF SEQ ID NOS: 305
SEQ ID NO 176
LENGTH: 982
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96.5%; Score 5084; DB 2; Length 982;
Best Local Similarity 99.6%; Pred. No. 0;
Matches 978; Conservative 2; Mismatches 2; Indels
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NAME/KEY: VARIANT
LOCATION: (1)...(982)
OTHER INFORMATION: Xee = Any Amino Acid
                                                                                                                                                                                                                                        GRYEYRDASRGYGLSAGSRVRF 1012
                                                                                                                                                                                                                                                                                                                                               Sequence 176, Application US/09556877
Patent No. 6432916
GENERAL INFORMATION:
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ORGANISM: Chlamydia
                                                                                                                                                                                                                                                                                                             RESULT 11
US-09-556-877-176
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US-09-556-877-176
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          AND
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APPLICANT: Scholler, John TITLE OF INVENTION: COMPOUNDS AND METHODS FOR TREATMENT TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION FILE REFERENCE: 210121.469G CURRENT APPLICATION NUMBER: US/09/598,419 CURRENT FILING DATE: 2000-06-20 NUMBER OF SEQ ID NOS: 357 SOFTWARE: FastSEQ for Windows Version 3.0/4.0 SEQ ID NO 176 LENGTH: 982
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                                                                                                                                                                     Score 5084; DE; Pred. No. 0; 2; Mismatches
                                                                                                                      NAME/KEY: VARIANT;
COCATION: (1)...(982)
CTHER INFORMATION: Xaa = Any Amino Acid
US-09-598-419-176
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Matches 978; Conservative
                                                                                               TYPE: PRT
ORGANISM: Chlamydia
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Sequence 176, Application US/09598419 Patent No. 6565856 GENERAL INPORMATION: APPLICANT: Skeiky, Yasir A.W.

-09-598-419-176

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| Sequence I7. Application US/09612402B
| Patent NO. 6642023
| GENERAL INFORMATION:
| APPLICANT: Dackson, W. James
| APPLICANT: Pace, John
| TILLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
| Patent NO. 6642029
| CURRENT PAPLICATION NUMBER: US/09/612,402B
| CURRENT APPLICATION NUMBER: US/09/612,402B
| PRIOR PILING DATE: 1997-10-02
| NUMBER OF SEQ ID NOS: 43
| SOFTWARE: PatentIn version 3.0
| SEQ ID NO 17
| LENGTH: 505
                                                PTVLGRGHSLTPENIRTSTNGAALSNSAADGLFTIEGPKELSFSNCNSLLAVLPAATTNK
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US-09-612-402B-17
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Best Local Simil
Matches 505; C
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US-09-612-402B-17
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            841 SKLYLNELRPFVQAEPSYADHESFTERGDQARAPKSGHLINLSVPVGVKFDRCSSTHPNK
                                                                                                                                                                 901 YSFWAAYICDAYRTISGTETTLISHQETWTTDAFHLARHGVVVRGSMYASLTSNIEVYGH
                                                                                                                                              YSFWAAYICDAYRIISGTETTLLSHQETWTTDAFHLARHGVVVRGSMYASLTSNIEVYGH
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APPLICANT: Bhatia, Ajay
APPLICANT: Guderian, Jeff
APPLICANT: Guderian, Jeff
APPLICANT: Gederian, Jeff
APPLICANT: Maisonneuve, Jean-Francois L.
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR TREATMENT
TITLE OF INVENTION: AND DIAGNOSIS OF CHLAMYDIAL INFECTION
FILE REFERENCE: 210121.515C3
CURRENT APPLICATION NUMBER: US/10/197,220
CURRENT FILING DATE: 2002-07-15
NUMBER OF SEQ ID NOS: 175
                                                                                                                                                                                                               GRYEYRDASRGYGLSAGSRVRF 1012
                                                                                                                                                                                                                                  GRYEYRDASRGYGLSAGSKVXF 982
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Patent No. 6919187
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US-10-197-220-169
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| Sequence 17, Application US/09542520
| Patent No. 6897843
| GENERAL INFORMATION:
| APPLICANT: Jackson, W. James
| APPLICANT: Dackson, W. James
| APPLICANT: Dackson, W. James
| APPLICANT: Dackson, W. James
| TITLE OF INVENTION: CHLAMYDIA PROTEIN, GENE SEQUENCE AND USES THEREOF
| TITLE OF INVENTION: CHLAMYDIA PROTEIN, GENE SEQUENCE AND USES THEREOF
| CURRENT APPLICATION NUMBER: US/09/542,520
| CURRENT APPLICATION NUMBER: PCT/US98/20737
| PRIOR PILING DATE: 1998-10-01
| NUMBER OF SEQ ID NOS: 41
| SOFTWARE: Patentin Ver. 2.0
| LENGTH: 505
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SMGSGGKITTLRAKAGHQILFNDFIEMANGNNQPAQSSKLLKINDGEGYTGDIVPANGSS
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Pred. No. 3.1e-214;
1; Mismatches 0; Indels
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                                                                    509 TLYQNVTIEQGRIVLREKAKLSVNS 533
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Best Local Similarity 99.8%;
Matches 504; Conservative
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; ORGANISM: Chlamydia
US-09-542-520-17
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RESULT 17 US-09-612-402B-36

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SECTION SECURITY PARTICULARY PER SEQUENCE AND USES THEREOF FILE REFERENCE: 1989-10-01

TITLE OF INVENTION CHLAMYDIA PROTEIN, GENE SEQUENCE AND USES THEREOF TILE REFERENCE: 7969-076-99

CURRENT PELLON NUMBER: PCT/US98/20737

PRIOR APPLICATION NUMBER: PCT/US98/20737

PRIOR APPLICATION NUMBER: PCT/US98/20737

NUMBER OF SEQ ID NOS: 41

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 36
; Sequence 36, Application US/09612402B

; Patent No. 6642023

; GENERAL INFORMATION:

APPLICANT: Jackson, W. James

APPLICANT: Pace, John

; TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof

PILE REFERENCE: 7969-086-999

; CURRENT PEPLICATION NUMBER: US/09/612,402B

; CURRENT PELING DATE: 1997-10-02

; PRIOR APPLICATION NUMBER: 08/42,596

; PRIOR APPLICATION NUMBER: 08/42,596

; RUNBER OF SEQ ID NOS: 43

; SOFTWARE: Patentin Version 3.0

; SEQ ID NO 36
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100.0%; Pred. No. 5e-197;
tive 0; Mismatches 0;
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ORGANISM: Chlamydia sp.
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Best Local Similarity
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US-09-542-520-36
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32.9%; Score 1735; DB 2; L
Best Local Similarity 100.0%; Pred. No. 2.3e-143;
Matches 325; Conservative 0; Mismatches 0;
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US-09-438-185A-455
; Sequence 455, Application US/09438185A
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Best Local Similarity
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ORGANISM: Chlamydia
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US-09-542-520-37
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Sequence 37, Application US/09612402B | Sequence 37, Application US/09612402B | Petent No. 6642023 | GENERAL INFORMATION: | APPLICANT: Tackson, W. James | APPLICANT: Pace, John W. James | TILLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof | TILLE REFERENCE: 7969-999 | CURRENT APPLICATION NUMBER: US/09/612,402B | CURRENT APPLICATION NUMBER: 08/942,596 | FRIOR FILING DATE: 1997-10-02 | NUMBER OF SEQ ID NOS: 43 | SOFTWARE: Patentin version 3.0 | SEQ ID NO 37 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LENGTH 325 | LEN
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44.6%; Score 2350; DB 2;
Best Local Similarity 100.0%; Pred. No. 5e-197;
Matches 458; Conservative 0; Mismatches 0;
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; ORGANISM: Chlamydia sp.
US-09-612-402B-37
                    1 TYPE: PRT
CORGANISM: Chlamydia
US-09-542-520-36
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US-09-612-402B-37
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APPLICANT: MURCHIAN. ANGLEW
TITLE OF INVENTION: CHLAMYDIA ANTIGENS AND CORRESPONDING DNA FRAGMENTS AND
TITLE OF INVENTION: USES THEREOF
FILE REFERENCE: 19721-011
CURRENT APPLICATION NUMBER: US/09/430,723
CURRENT FILING DATE: 1999-10-29
EARLIER FILING DATE: 1999-11-02
EARLIER FILING DATE: 1999-11-02
EARLIER FILING DATE: 1999-11-02
EARLIER FILING DATE: 1999-11-02
EARLIER FILING DATE: 1999-05-07
NUMBER OF SEQ 1D NOS: 4
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-QKINVLKLQLGTKPPANAPSDL-TLGNEMPKYGYQGSWKLAWDPNTANNGPYTLKATWT
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                                        625 LÓQVPILELKATSNTVTTTDFSLGTNGYQOSPYGYGGTWEFTIDTTT----HTVTGNWK
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ORGANISM: Chlamydia pneumoniae
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                                                                     APPLICANT: Michell, Wayne
APPLICANT: Kalman, Sue
APPLICANT: Kalman, Sue
APPLICANT: Davis, Ronald
APPLICANT: The Regente of the University of California
TITLE OF INVENTION: Chlamydia Pneumoniae Genome Sequence
FILE REPRENENCE: 018941-000411US
CURRENT APPLICATION NUMBER: US/09/438,185A
CURRENT PILING DATE: 2002-03-13
PRIOR PILING DATE: 1999-11-12
PRIOR PILING DATE: 1999-11-12
PRIOR PILING DATE: 1999-104-08
NUMBER OF SEQ ID NOS: 1074
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 455
LENGTH: 999
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ORGANISM: Chlamydia pneumoniae
                              GENERAL INFORMATION:
APPLICANT: Stephens, Richard
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                                                                                                                                                                                                                                                                                                                           ; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 2
; LENGTH: 928
; TYPE: PRT
; ORGANISM: Chlamydia pneumoniae
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APPLICANT: Connaught Laboratories Limited
APPLICANT: Murdin et al.
TITLE OF INVENTION: CHIAMYDIA ANTICENS AND CORRESPONDING DNA FRAGMENTS AND
TITLE OF INVENTION: USES THEREOF
FILE REPERENCE: 19721-007-019
CURRENT APPLICATION NUMBER: US/09/428,122
CURRENT FILING DATE: 1999-10-27
EARLIER APPLICATION NUMBER: 60/116,046
EARLIER PILING DATE: 1998-10-28
EARLIER FILING DATE: 1998-10-28
EARLIER FILING DATE: 1999-05-03
NUMBER OF SEQ ID NOS: 4
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                                                                             VTPSNNSDLTPQNNTASPQNSLPAPTPPPTTPPAVTP-LLGYGGAIFCTPPATPPPTGV-S
                                                                                                           VSFDGEGVVFFSSNVAAGKGGAIYAKKLSVANCGPVQFLRNIANDGGAIYLGESGELSLS
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US-09-428-122-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       792 DYVVCRSNHHACIGSVYLSTQOAL-----CGSYLFGDAFI------RASYG 831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           709 DCFIAHINSRTYGGTLFFKHSHTLOPQNYLRLGRAKFSESAIEKFPREIPLALDVQVSFS 768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  832 FGNQHMKTSYTFAEESDVRWDNNCLAGEIGAGLPIVITPSKLYLNELRPFVQAEFSYADH 891
                                                                                                                                                                                                                                                                      :: |:: :|::|| :: |::||:| |: IEGNIYESH-MFSHDQLFSLLKITV----DADVDTINVDISSLIPVPAEDPNSEYGFQGQW 589
                                                                                                                                                                                                                                                                                                                                              673 KLAWDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGSILDIRSAHSAIQASVDG 732
                                                                                                                                                           LDDIAYDRYDWLGSNQKINVLKLQLGTKPPANAPSDLTLGNEMP-----KYYGYQGSW
                                                                                                                                                                                                                                                                                                                                                                              ---NGSSTLYQNVTIEQGRIVLREKAKLSVNSLSQTGGSLY-MEAGSTWDFVTPQPPQQP
                                                                                                                      PAANQLITLSNIHLSLSSLLANNAVTNPPTNPPAQDSHPAVIGSTTAGSVTISGPIFFED
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                                              440 VADNIKSSFTQPVSLSGGKILIQKGVTLESTSFSQEAGSLIGMDSGTTLSTTAGS----
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20.7%; Score 1090; DB 2; Length 967;
Best Local Similarity 28.8%; Pred. No. 5.2e-86;
Matches 311; Conservative 154; Mismatches 394; Indels 222;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: MILCHELLI, MAJANE, APPLICANT: MILCHELLI, MAJANE, APPLICANT: Davis, Ronald APPLICANT: Davis, Ronald APPLICANT: The Regents of the University of California APPLICANT: The Regents of the University of California TITLE OF INVENTION: Chlamydia Pneumoniae Genome Sequence FILE REPERENCE: 018941-000411US CURRENT PREPLICATION NUMBER: US 60/108,279 PRIOR PLILING DATE: 2002-03-13 PRIOR PLILING DATE: 1998-11-12 PRIOR PLILING DATE: 1998-11-12 PRIOR FILING DATE: 1998-10-08 NUMBER OF SEQ ID NOS: 1074 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1999-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSCOT DATE: 1990-04-08 SSC
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; Sequence 453, Application US/09438185A
; Patent No. 6822071
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GENERAL INFORMATION:
APPLICANT: Stephens, Richard
APPLICANT: Mitchell, Wayne
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Sequence 478, Application US/09198452A
Patent No. 6559294
GENERAL INFORMATION:
APPLICANT: Griffais, R.
APPLICANT: Griffais, R.
APPLICANT: Griffais, R.
APPLICANT: Griffais, R.
APPLICANT: Griffais, R.
APPLICANT: Griffais, R.
TITLE OF INVENTION: thereof and uses thereof, in particular for the diagnosis, preve TITLE OF INVENTION: and treatment of infection
FILE REPERENCE: 9710-003-999
CURRENT APPLICATION NUMBER: US/09/198,452A
CURRENT FILING DATE: 1998-11-24
NUMBER OF SEQ ID NOS: 6849
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            110 AALSNSAADGLFTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTD 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       170 LLLLINNEKFSFYSNLVSGDGGAIDAKSLTVQGISKLCVFQENTAQADGGACQVVTSFSAM 229
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764 VKGSWGNDSFALEFGGRAPICLDESALF-EQYMPFWKLQFVYAHQEGFKEQGTEAREFGS 822
                                                                                                          823 SRLVNLALPIGIRFDKESDCQDATYNLTLGYTVDLVRSNPDCTTTLRISGDSWKTFGTNL 882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MOTSPHKPPLSMILAYSC--CSLNGGGYAARIMVPQGIYDGBTLTVSF-----PYTVI 51
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                                                         907 GHLIMLSVPVGVKFDRCSSTHPNKYSFMAAYICDAYRTISGTETTLLSHQETWTTDAFHL
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larity 28.8%; Pred. No. 5e-86;
Conservative 154; Mismatches 394; Indels 222;
                                                                                                                                                                    967 ARHGVVVRGSMYASLISNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
                                                                                                                                                                                                 LOCATION: 1...949
OTHER INFORMATION: Xaa=unknown or other
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Best Local Similarity
Matches 311; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: SITE
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                                                                                                                                                                                                                                                                                                                  RESULT 24
US-09-198-452A-478
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È	1 MQTSFHKFFLSMILAYSCCSLNGGGYAAEIMVPQGIYDGETLTVSFPYTVI 51	1012 F
q	40 MKT8IPWVLVSSVIAFSCHLQSLANERLLSPDDSFNGNIDSGTFTFKTSATTYSLT 95	Db 967 F 967
È	52 GDPSGTTVPSAGELILKNLDNSIAALPLSCPGNLLGSPTVLGRGHSLTFENIRTSTNG 109	RESULT 26
qq	96 GDVFFYEPGKGTPLSDSCFKQTTDNLTFLGNGHSLTFGFIDAGTHA 141	. Sequence 470, Application US/09198452A
ò	110 AALSNSAADGLFTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTD 169	; Facent No. 6559294 ; GENERAL INFORMATION:
අු	142 GAAASTTANKOLTF8GFSLLSFDSSPSTTVTTGQGTLSSAGG 183	TITLE OF INVENTION: Chlamydia pneumoni
È	170 LILLINNEKFSFYSNLVSGDGGAIDAKSLTVQGISKLCVFQENTAQADGGACQVVTSFSAM 229	; TILLS OF INVENTION: Unered and uses ; TILLS OF INVENTION: and treatment of
qa	184 VNLBNIRKLVVAGNFSTADGGAIKGASFLLTGTSGDALFSNNSSSTKGGA 233	; CURENT PAPLICATION NUMBER: US/09/198
è	230 ANEAPIAFVANVAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTA-VEFDGNVARVG 288	NUMBER OF SEQ ID NOS: 6849
qa	234IATTAGAR	; SEQ 15 NO 470 ; LENGTH: 930
È	NGKTLFLNNVASPVYIAAKOPTSGOASNT	; ORGANISM: Chlamydia pneumoniae
qq	260 GGAIDDBGTSILSNNKFLYFEGNAAKTTGGAI-CNTKASG 298	98-452A-470
È	E	A CO
qa	299 SPELIISNNKTLIFASNVAETSGGAIHAKKLALSSGGFTEFLRNVSSATP 349	MACCINES
È	SLSA	QY 1 MQTSFHKFFLSMILAYSCCSLNGGGYR
qa	350 KGGAISIDASGELSLSARTGNITFVRNTLTTTGSTDTPKRNAINIGSNGKFTEL 403	
È	460 RAKAGHQILPNDPIBWANGNNQPAQSSKLLKINDGBGYTGDIVFA 504	Qy 60 PSAGELTLYNLDNSIAALPLSCPGNLI
a a		Db 59 VLSGNVYINDAGKG-TALIGCCFTETT
È	505NGSSTLYONVTIEQGRIVLREKAKLSVNSLSQTGGSLY-MEAGSTWDFVTPQPPQQP 560	Qy 120 LFTIBGFKELSFSNCNSLLAVLPAATT
ପ୍	458 VADNLKSSFTQPVSLSGGRULLQKGVTLESTSFSQEAGSLLGMDSGTTLSTTAGS 512	Db 118 ALTFTGFSNLSFIAAPGTTV
Š	561 PAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDSHPAVIGSTTAGSVTISGPIFFED 620	
qa	::	165
È	621 LDDTAYDRYDWLGSNQXINVLKLQLGTKPPANAPSDLTLGNEMPKYGYQSSW 672	237 FVANVAGVRGGGIAAVQDGQQ
qa	:: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :	220
ĕ	673 KLAMDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLMGSILDIRSAHSAIQASVDG 732	297 VAFLNNGKTLFLNNVASFVY
đ	608 NVNWTTDTATN-TKEATATWTKTGFVPSPERKSALVCNTLWGVFTDIRSLQQLVEIGATG 666	256
ò	NPFYHDRDALGQGYRY I SGGYSLGA	357
đ	667 MEHKQGFWVSSWINPLHKIGDENRKGFRHISGGYVIGGSAHIPKDDLFIFARCHLFARDK 726	275
È	792 DYVVCRSNHHACIGSVYLSTQQALCGSYLFGDAFIRASYG 831	412 LSLSADYGDIIFDGNLKRTAK
ପ୍ଧ	727 DCFIAHNNSRTYGGTLFFKHSHTLQPQNYLRLGRAKFSBSAIEKFPREIPLALDVQVSFS 786	335 LSLSANQGDITFLG
È	832 FGNQHMKTSYTPABBSDVRMDNNCLAGBIGAGLPIVITPSKLYLMBLRPFVQABFSYADH 891	472
qq	187 HSDNRMETHYTSLPESEGSWSNECIAGGIGLDLPFVLSNPHPLFKTFIPQMKVEMVYVSQ 846	388
È	892 ESFTEEGDGARAFKSGHLLMLSVPVGVKFDRCSSTHPNKYSFMAAYICDAYRTISGTETT 951	512
qa		441
è	952 LLSHQETWTTDAFHLARHGVVVRGSMYASLTSNIEVYGHGRYEYRDASRGYGLSAGSRVR 1011	572
qa	: :: ::	491 LVVDLSALEGNKSVS
		Qy 629 YDWLGSNQKINVLKLQLGTKPP

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niae genomic sequence and polypeptides, fragments thereof, in particular for the diagnosis, prever infection
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8SITQNSSLPFSGNTATD-----255
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794 VVCRSNHHACIGSVYLSTQQALCGSYL--FGDAP-----IRASYGFGNQHMKTS 840
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Batent No. 6822071
GENERAL INFORMATION:
APPLICANT: Stephens, Richard
APPLICANT: Mitchell, Wayne
APPLICANT: Mitchell, Wayne
APPLICANT: The Regents of the University of California
APPLICANT: The Regents of the University of California
APPLICANT: The Regents of the University of California
APPLICANT: The Regents of the University of California
APPLICANT: The Regents of the University of California
APPLICANT: WINDERSTON CALLANGIA COURRENT APPLICATION NUMBER: US/09/438,185A
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Best Local Similarity 28.3%; Pred. No. 4.5e-85;
Matches 303; Conservative 160; Mismatches 407; Indels 202; Gaps
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                                                                                                                                  721 ASLYFHHTEGLFDIANFLWGKATRAFWVLSEISQIIPLSFDAKFSYLHTDNHMKTYYT--
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| CXFGQNFSNDNGGALQGSSISL-SINFNLTFAKNKATQKGGAL----YST-----
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19.4%; Score 1021; DB 2; Length 937;
Best Local Similarity 29.5%; Pred. No. 5.5e-80;
Matches 313; Conservative 161; Mismatches 404; Indels 184;
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APPLICANT: Kalman, Sue
APPLICANT: Davis, Ronal
APPLICANT: The Regents of the University of California
TITLE OF INVENTION: Chlamydia Pheumoniae Genome Sequence
PILE REFERENCE: 018941-000411US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/09/438,185A CURRENT FILING DATE: 2002-03-13
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PRIOR FILING DATE: 1998-11-12
PRIOR APPLICATION NUMBER: US 60/128,606
PRIOR FILING DATE: 1999-04-08
NUMBER OF SEQ ID NOS: 1074
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 449
                                                                    GSVYLSTOQAL--CGSYLFGDAF----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; Sequence 449, Application US/09438185A.
Patent No. 6822071
; GENERAL INFORMATION:
APPLICANT: Stephens, Richard
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US-09-438-185A-449
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19.8%; Score 1041; DB 2; Length 947;
Best Local Similarity 29.0%; Pred. No. 9.9e-82;
Matches 310; Conservative 162; Mismatches 406; Indels 192;
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CURRENT FILING DATE: 2002-03-13
PRIOR APPLICATION NUMBER: US 60/108,279
PRIOR FILING DATE: 1998-11-12
PRIOR APPLICATION NUMBER: US 60/128,606
PRIOR APPLICATION NUMBER: US 60/128,606
NUMBER OF SEQ ID NOS: 1074
SOFTWARE: PSECSEQ for Windows Version 3.0
SEQ ID NO 447
LENGTH: 947
                                                                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Chlamydia pneumoniae
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US-09-438-185A-447
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    687 TLKATWITKTGYNPGPERVASLVPNSLWGSILDIRSAHSAIQASVDGRSYCRGLWVSGVSN 746
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                                                                                                                              TTVPSAGELTLKNLDNSIAALPLSCFGNLLGSFTVLGRGHSLTFENIRTSTNGAALSNSA 116
                                                                                                                                                 115 ANKLLSFSGFSYLSL-------IQTTNATTGTGALKSTGACSIQSNY 154
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                                                                                     ELSLSADYGDIIPDGNLKRTAKENAADVNGVTVSSQAISMG-SGGKITTLRAKAGHQILF
                                                                 1 MQTSFHKFFLSMILAYSCCSLNGGGYAABIMV---PQGIYDGB-TLTVSFPYTVIGDPSG
                                     Indels 183;
           Length
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QPLTLAGGQLSLKSGVTLVAKSFSQSPGSTLLMDAGT-----
        Query Match
18.9%; Score 994.5; DB 2;
Best Local Similarity 29.0%; Pred. No. 1.1e-77;
Matches 308; Conservative 157; Mismatches 413;
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Sequence 472, Application US/09198452A
Sequence 472, Application US/09198452A
Sequence 472, Application US/09198452A
Sequence 472, Application
Sequence 472, Application
Sequence 472, Application:
GENERAL INFORMATION:
APPLICANT: Griffais, R.
APPLICANT: Griffais, R.
APPLICANT: Griffais, R.
APPLICANT: Griffais, R.
TITLE OF INVENTION: thereof and uses thereof, in particular for the diagnosis, prevering RILE REFERENCE: 9710-003-999
CURRENT APPLICATION NUMBER: US/09/198,452A
CURRENT PILING DATE: 1999-11-24
NUMBER OF SEQ ID NOS: 6849
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                                                                                                          338 SLSLSALGGDITFEGN---TVVKGAS--SSQTTTRNSINIGNTNAKIVQLRASQGNTIYF 392
                                                                                                                                                                                    393 YDPIT----TSITAALSDALNINGPDLAGNPAYQGTIVPSGEKLSEAEAAEADNIKSTIQ 448
                                                                                           ELSLSADYGDIIFDGNLKRTAKENAADVNGVTVSSQAISMG-SGGKITTLRAKAGHQILF 469
----GGAIYC----SSTSAPKPV 277
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                                                                                                                                                      470 NDPIEMANGNNQPAQSSKLLKINDGE----GYTGDIVFA------NGSSTLY
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                             VSPDGEGVVPPSSNVAAGKGGAIYAKKLSVANCGPVQFLRNIAND-----GGAIYLGESG
                                                      VVVRGSMYASLTSNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
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; OTHER INFORMATION: Xaa=unknown or other US-09-198-452A-472
    -SPISSNKAISPINN----SVTATSAT-
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1015 YDN---PGLKANLNLPPLDLSSTSGTVNLDDFNPIPSSMA----APDYGYQGSWTLV--P 1065
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                SSTLYQNVTIEQGRIVLREKAKLSVNSLSQTGGS-LYMEAGSTWDFVTPQPPQQPPAANQ 565
                                                                       566 LITLSNIHLSLSSLLANNAVTNPPTNPPAQDSHPAVIGSTTAGSVTISGPIFFEDLDDTA 625
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GENERAL NO. 804201.

APPLICANT: Stephens, Richard

APPLICANT: Mitchell, Wayne

APPLICANT: Mitchell, Wayne

APPLICANT: The Regents of the University of California

APPLICANT: The Regents of the University of California

TITLE OF INVENTION: Chlamydia Pneumoniae Genome Sequence

FILE REFERENCE: 018941-000411US

CURRENT APPLICATION NUMBER: US 60/108,279

PRIOR APPLICATION NUMBER: US 60/108,279

PRIOR APPLICATION NUMBER: US 60/108,279

PRIOR PILING DATE: 1999-11-12

PRIOR PILING DATE: 1999-14-08

NUMBER OF SEQ ID NOS: 1074

SEQ ID NOS: 1074

SEQ ID NOS: 1074
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; Patent No. 6822071
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18.7%; Score 985.5; DB 2; Length 1414;
Best Local Similarity 28.0%; Pred. No. 1.4e-76;
Matches 302; Conservative 148; Mismatches 404; Indels 226;
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s Sequence 446, Application US/09438185A

p Patent No. 682201

general incommation:
    APPLICANT: Stephens, Richard
    APPLICANT: Mitchell, Wayne
    APPLICANT: Mitchell, Wayne
    APPLICANT: Mitchell, Wayne
    APPLICANT: The Regents of the University of California
    TITLE OP INVENTION: Chlamydia Phenmoniae Genome Sequence
    FILE REPERBRICE: 01894-000411US
    CURRENT APPLICATION NUMBER: US/09/438,185A
    CURRENT FILING DATE: 2002-03-13
    PRIOR PELING DATE: 1999-10-12
    PRIOR PELING DATE: 1999-10-08
    NUMBER OF SEQ ID NOS: 1074
    SOFTWARE: FastSEQ for Windows Version 3.0
    SEQ ID NO 446
    LENDY: 1414
972 VVRGSMYABLTSNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
                                                       : | :: : |:|| : | : | : | 887 IGRAGIFYAFBPNLEVTSNLSMEIRGSSRSYNADLGGKFQF 927
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ORGANISM: Chlamydia pneumoniae
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U8-09-438-185A-446
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TYPE: PRT
ORGANISM: Chlamydia pneumoniae
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US-09-438-185A-6
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                                                                 84 ASVTISNNAKVSFIDN-----TSTDT 126
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235 IAFVANVAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEFDGNVARVGGGIYSY 294
                                            GNVAFLNNGKTLFLNNVASPVYIAAKQPTSGQASNTSNNYGDGGAIFCKNGAQAGSNNSG 354
                                                                                                                                                                                  NDPIEMANGNNQPAQSSKLLKINDGEG----YTGDIVPA------NGSSTLY
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                                                                                                                                     GELSLSADYGDIIFDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILF
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                      --GAAIFTE
                                                                                       SVSFDGEGVVFFSSNVAAGKGGAIYAKKLSVANCGPVQFLRNIAN-----DGGAIYLGES
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APPLICANT: Stephens, Wayne
APPLICANT: Alman, Sue
APPLICANT: Davis, Ronald
TITLE OF INVENTION: Chlamydia Pneumoniae Genome Sequence
PILE REFERENCE: 018941-000411US
CURRENT APPLICANTON NUMBER: US/09/438,185A
CURRENT FILING DATE: 2002-03-13
PRIOR APPLICATION NUMBER: US 60/108,279
PRIOR FILING DATE: 1998-11-12
                ----SDNTSSDS----
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66 VSP-
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US-09-438-185A-6
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                                                                                                                                                                                                                                                                                         Query Match
18.4%; Score 967; DB 2; Length 932;
Best Local Similarity 28.0%; Pred. No. 3e-75;
Matches 295; Conservative 144; Mismatches 380; Indels 236;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96 PAGNHIGLYPNNISSGTTKEGAVLCCQDPQATARFSGFSTLSF-----
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PRIOR APPLICATION NUMBER: US 60/128,606
PRIOR FILING DATE: 1999-04-08
NUMBER OF SEQ ID NOS: 1074
SOFTWARE: PastSEQ for Windows Version 3
SEQ ID NO 6
LENGTH: 932
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543
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CURRENT APPLICATION NUMBER: US/09/438,185A
CURRENT APPLICATION NUMBER: US 60/108,279
FRIOR PLING DATE: 1998-11-12
PRIOR FILING DATE: 1998-04-08
FRIOR PLING DATE: 1999-04-08
NUMBER OF SEQ ID NOS: 1074
SOFTWARE: FRACESEQ for Windows Version 3.0
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Pred. No. 6.7e-73;
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   -----KFLKLQARNGYSIEFYDPI--
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; Sequence 15, Application US/09438185A
; Patent No. 6822071
; GENERAL INFORMATION:
; APPLICANT: Stephens, Richard
; APPLICANT: Mitchell, Wayne
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ORGANISM: Chlamydia pneumoniae
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Best Local Similarity
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Refeat No. 6559294
GRERAL INFORMATION:
APPLICANT: Griffals, R.
TITLE OF INVENTION: thereof and uses thereof, in particular for the diagnosis, prevering PINVENTION: and treatment of infection
FILE REFERENCE: 9710-003-999
CURRENT APPLICATION NUMBER: US/09/198,452A
NUMBER OF SEQ ID NOS: 6849
EXECUTED OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE 
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918 VKFDRCSSTHPNKYSFMAAYICDAYRTISGTETTLLSHQETWTTDAFHLARHGVVVRGSM 977
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Matches 293; Conservative 145; Mismatches 381; Indels 236;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18.2%; Score 958; DB 2; Length 922; 27.8%; Pred. No. 1.8e-74;
                                                                                                                                                                                                                                                                                                                                                                        978 YASLTSNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
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Sequence 466, Application US/09198452A

Sequence 466, Application US/09198452A

Patent No. 6555294

GENERAL INFORMATION:

APPLICANT: GTIffals, R.

TITLE OF INVENTION: Chlamydia pneumoniae genomic sequence and polypeptides, fragments

TITLE OF INVENTION: thereof and uses thereof, in particular for the diagnosis, preve

TITLE OF INVENTION: and treatment of infection

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Oy 479	NNQPAQSSKLIKINDGEGYIGDIVFANGSSTLYQNVTIEQG 519	Qy 473 IEMANGNNQPAQSSKLLKINDGEGYTGDIVFA
Db 730 VPPF	730 VPPPQPKNGPIAŠVPVVPVAPANPNÝGTIVFSSGKLPSQDASIPÁNTTILNÓKINLAGG 789	Db 92 ITANTAADSTDTININKADAGNSTDYSGSIVFSGEKI
	POOPPAANQLITLSNLHLSLSS	515
IVVN 067 dd	790 NVVLKEGATLQVYSFTQQPDSTVFMDAGTTLETTTTNNTDGSIDLKNLSVNLDA 843	Db 148 TLTAĞNLVLKRGVTLDTKGFTQTAĞSSVIMDAĞTTL
Oy 579 LLAN	LLANNAVINPPINPPAQDSHPAVIGSTIAGSVIISGPIFFEDLDDIAVDRYDWLGSNQKI 638	Qy 574 LSLSSLLANNAVINPPTNPPAQDSHPAVIGSTTAGSVTISG
Db 844 LDGN	844 LDGKRMITIAVNSTSGGLKISGDLKFHNNEGSFYDNPGLKANL 886	Db 197 IPVDSLGBGKKVVIAASAASKNVALSC
Qy 639 NVLK : Db 887 NLPF	639 NVLKLQL-GTKPPANAPSDLTLGNEMPKYGYQGSWKLAMDPNTANNGFYTLKAT 691	QY 634 SNQKINVLKIQ-LGTKPPANAPSDLTLGNBMPKYGYGGSWK
Qy 692 WIKI		692
		300
Qy 752 RDAL	752 RDALGQGYRYISGGYGLGANSYFGSS - MFGLAFTEVFGRSKDYVVCRSNHHACIGSVYLS 810	OY 751 DRDALGQGYRY18GGYSL-GANSYFGSSMFGLAFTEVPGRE
Db 1001 KQKB	1001 KOKENAGPRLISRGYIVGGSMTTPQEYTFAVAFSQLFGKSKDYVVSDIKSQVYAGS 1056	Db 360 DKKGEKRKYRHKSGGYALGGAAQTCSENLISFAFCQLFGSE
Qy 811 TQQA	TQQALC-GSYLPGDAFIRASYGFGNQHMKTSYTFAE 845	Qy 810 STQQALCGSYLFGDAFIRASYGFGNQHW
Db 1057	LCAQSSYVIPLHSSLRRHVLSKVLPELPGETPLVLHGQVSYGRNHHNMTTKLANNT 1112	Db 420 QHITECSGFIGCLLDKLPGSWSHKPLVLEGQLAYSHVSNDI
Qy 846 ESDV	ESDVRWDNN 854	ARFSYADHE
Db 1113 GGK8	1113	Db 480 NAMIGASSHSYPRYLHCPDTYAPYIKINLTYIRQDSFSB
RESULT 37		Qy 916 VGVKFDRCSSTHPNKYSFMAAYICDAYRTISGTETTLLSHQ
US-09-438-185A-451 ; Sequence 451, Ap	1 pplication US/09438185A	DD 538 IGVKFEKFSDCNDFSYDLTLSYVPDLIRNDPKCTJALVISG
; Patent No. 68220 ; GENERAL INFORMAT	071 TION:	Qy 976 SMYASLISNIEVYGHGRYEYRDASRGYGLSAGSRVRF 101
, APPLICANT: Step	APPLICANT: Stephens, Richard APPLICANT: Mitchell, Wayne	Db 598 GSHYAFSPMFEVLÖQFVFEVRGSSRIYNVDLGGKFQF 634
APPLICANT: Kal	,	RESULT 38
, APPLICANT: The	e Regents of the University of California IION: Chlamydia Pneumoniae Genome Sequence	US-09-198-452A-474 ; Sequence 474, Application US/09198452A
, FILE REFERENCE: , CURRENT APPLICA	: 018941-000411US ATION NUMBER: US/09/438,185A	<pre>; Patent No. 6559294 ; GENERAL INFORMATION:</pre>
; CURRENT FILING ; PRIOR APPLICATI	DATE: 2002-03-13 ION NUMBER: US 60/108,279	; APPLICANT: Griffais, R. ; TITLE OF INVENTION: Chlamydia pneumoniae genomic sec
, PRIOR FILING DA ; PRIOR APPLICATI	ATE: 1998-11-12 ION NUMBER: US 60/128,606	<pre>; IIILE OF INVENTION: thereof and uses thereof, in pa ; IIILE OF INVENTION: and treatment of infection</pre>
; PRIOR FILING DA ; NUMBER OF SEQ I	ATE: 1999-04-08 ID NOS: 1074	; FILE REFERENCE: 9710-003-999 ; CURRENT APPLICATION NUMBER: US/09/198,452A
; SOPTWARE: FastS	; SOPTWARE: FastSEQ for Windows Version 3.0 ; SEQ ID NO 451	; CURRENT FILING DATE: 1998-11-24 ; NUMBER OF SEQ ID NOS: 6849
; LENGTH: 634; TYPE: PRT	LENGTH: 634 TYPE: PRI	; SEQ ID NO 474 ; LENGTH: 643
; ORGANISM: Chla; FEATURE:	amydia pneumoniae	; TYPE: PRT ; ORGANISM: Chlamydia pneumoniae
) OTHER INFORMATION: CPn0449 US-09-438-185A-451	LION: CPn0449	. 73
Query Match Best Local Similarity	15.3%; Score 808; DB 2; Length 634; 30.8%; Pred. No. 1.3e-61;	Query Match 15.3%; Score 804; DB 2; Le Best Local Similarity 30.8%; Pred. No. 3.1e-61; Matches 214; Conservative 107; Mismatches 264;
Marches 215; C	ative 107; Mismatches 265; Indels 110; Gaps	Qy 360 GEGVVFFSSNVAAGKGGAIYAKKLSVANCGPVQFLRNIAND
0y 358 PDGB 	358 FDGEGVVFFSSNVAAGKGGAIYAKGGSVANCGPVQFLRNIANDGGAIYLGESGELSLSAD 417	
		Qy 420 DIIFDGNLKRTAKENAADVNGVTVSSQAISMGSGGK
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	AUT 11 INTERPRETATION OF THE LITTER OF THE L	Qy 475 MANGNNQPAQSSKLLKINDGRGYTGDIVFA

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sequence and polypeptides, fragments particular for the diagnosis, preve-
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----NGSSTLYONV 514
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KLSEDEAKVADNLTSTLKQPV 147
                                                TPOPPOOPPAANOLITLSNLH 573
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|ALTLCSDRGFWAAGVANFLDK 359
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                                                                                                                                           TKTGYNPGPERVASLVPNSLWGSILDIRSAHSAIQASVDGRSYCRGLWVSGVSNFFYHDR 752
                                                                                                                                                                                                                        DALGOGYRYISGGYSL-GANSYFGSSMFGLAFTEVFGRSKDYVVCRSNHHACIGSVYLS- 810
                                                                                                                                                                                                                                                                        -----TQQALCGSYLPGDAFI--RASYGPGNQHMKTSYTFAEESDVRWDNNCLAG 858
103 A----NTAADSTDTLNLNKADAGNSTDYSGSIVFSGEKLSBDEAKVADNLTSTLKQPVTL 158
                                  517 EQGRIVLREKAKLSVNSLSOT-GGSLYMEAGSTWDFVTPQPPQQPPAANQLITLSNLHLS 575
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                                                                                 LSSLLANNAVTNPPTNPPAQDSHPAVIGSTTAGSVTISGPIFFEDLDDTAYDRYDWLGSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 175. Application US/09556877
; Sequence 175. Application US/09556877
; Patent No. 6432916
; GENERAL INFORMATION:
    APPLICANT: Probst, Peter
; APPLICANT: Bhatia Ajay
; APPLICANT: Pilng, Steve
; APPLICANT: Ring, Steve
; APPLICANT: Maisonneuve, Jeff
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATMENT AND
TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION
; FILE REPERENCE: 210121.469C5
; CURRENT APPLICATION NUMBER: US/09/556,877
; CURRENT PILING DATE: 2000-04-19
; NUMBER OF EGQ ID NOS: 305
; SEQ ID NOS: 305
; SEQ ID NO 175
; SEQ ID NO 175
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14.6%; Score 769.5; DB 2;
Best Local Similarity 26.2%; Pred. No. 5.5e-58;
Matches 264; Conservative 146; Mismatches 395;
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; OTHER INFORMATION: Xaa = Any Amino Acid
US-09-556-877-175
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ORGANISM: Chlamydia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: VARIANT
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                                                                      GTIYSKT-DLLLLNNEKFSFYSNLVSGDGGAIDAKSLTVQGISKLCVFQENTAQADGGAC 220
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                                           NIRTSTNGAALSNSAADGLFTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSN
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DPLGETA-----LLTKNPNHVVCTFFEDCTMESLFPALCAHASQDDPLYVLGNSYCWFVS
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GENERAL INFORMATION:
APPLICANT: Steven P. Fling
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TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATMENT AND TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INPECTION FILE REFERENCE: 210121.468C7
CURRENT APPLICATION NUMBER: U8/09/620,412C
CURRENT FILING DATE: 2000-07-20
NUMBER OF SEQ ID NOS: 363
SOFTWARE: FASESEQ for Windows Version 3.0/4.0
SEQ ID NO 175
LENGTH: 880
                                                                                                                                                                                                                                                                                                Length 880;
                                                                                                                                                                                                                                                                                              Query Match 14.6%; Score 769.5; DB 2; Best Local Similarity 26.2%; Pred. No. 5.5e-58; Matches 264; Conservative 146; Mismatches 395;
                                                                                                                                                                                                                                                                                                                                                               DPSGTTVFSAGELTLKNLDNSIAALPLSCFGNLL-----
                                                                                                                                                                                                                            1 LOCATION: (1)...(880)
3 OTHER INFORMATION: Xaa = Any Amino Acid
US-09-620-412C-175
                                                                                                                                                         TYPE: PRT
ORGANISM: Chlamydia
FEATURE:
NAME/KEY: VARIANT
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1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
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US-10-312-273-3

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US-10-112-22

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181 YSNIVSGDGGAIDAKSLTVQGISKLCVFQENTAQADGGACQVVTSFSAMANBAPIAFVAN
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Fublication No. US20040137005A1
GENERAL INFORMATION:
APPLICANT: Jackson, W. James
APPLICANT: Pace, John Service Sequence and Uses Thereof
TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
TITLE OF INVENTION WHERE: US/10/766,711
CURRENT PILING DATE: 2004-01-27
PRIOR APPLICATION NUMBER: US/08/942,596
PRIOR APPLICATION NUMBER: US/08/942,596
NUMBER OF SEQ ID NOS: 43
SOFTWARE: Patentin version 3.0
SEQ ID NO 2
                                                                                IIPDGNLKRTAKENAADVNGVTVSSQAIS#GSGGKITTLRAKAGHQILFNDPIE#ANGNN
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                  EGVVFFSENVAAGKGGAIYAKKLSVANCGPVQFLRNIANDGGAIYLGESGELSLSADYGD
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Best Local Similarity 100.0%; Pred. No. 0;
Matches 1012; Conservative 0; Mismatches
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                                                                                                121 FTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTDLLLLNNEKFSF
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MQTSFHKFFLSMILAYSCCSLNGGGYAAEIMVPQGIYDGETLTVSFPYTVIGDPSGTTVF
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US-10-931-779-2
i Sequence 2, Application US/10931779
j Publication No. US20050048557A1
j GENERAL INFORMATION:
j APPLICANT: Jackson, W. James
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Publication No. US20040131625A1;
GENERAL INFORMATION:
APPLICANT: Betthet, Francois-Kavier Jacques
APPLICANT: Poolman, Jan
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APPLICANT: APPLICATION NUMBER: PCT/RP02/01356
PRIOR FILING DATE: 2002-02-08
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
NUMBER OF SEQ ID NOS: 106
SOFTWARE: PSECEN OF Windows Version 4.0
SEG ID NO 9
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97.4%; Score 5131.5;
Best Local Similarity 97.0%; Pred. No. 0;
Matches 983; Conservative 18; Mismatches
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    APPLICANT: Pace, John
TITLE OF INVENTION: Chlamydia Protein, Gene Sec
FILE REFERENCE: BP104
CURRENT APPLICATION NUMBER: US/10/931,779
CURRENT FILING DATE: 2004-09-01
PRIOR APPLICATION NUMBER: 09/542,520
PRIOR PILING DATE: 200-04-03
NUMBER: PATENT OF SEQ ID NOS: 43
SOFTWARE: PATENT NEWER: 910 NOS: 43
SOFTWARE: PATENT NEWER: 920-04-03
SOFTWARE: PATENT NEWER: 93 3.0
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Best Local Similarity 100.'
Matches 1012; Conservative
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ORGANISM: Chlamydia sp.
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        FTI EGFKELSFSNCNSLLAVLPAATTINKGSQTPTTTSTPSNGTI YSKTDLLLLINNEKFSF
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Publication No. US20050106162A1
GENERAL INFORMATION:
APPLICANT: Grand, Guido
TITLE OF INVENTION: Immunisation Against Chlamydia Trachomatis
FILE REFERENCE: 002441.00085
CURRENT APPLICATION NUMBER: US/10/498,327
CURRENT FILING DATE: 2004-06-10
FRIOR APPLICATION NUMBER: PCT/1B02/05761
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Publication No. UG20050106162A1
GENERAL INFORMATION:
APPLICANT: Grandi, Guido
APPLICANT: Grandi, Guido
TITLE OP INVENTION: Immunisation Against Chl.
FILE REFERENCE: 002441.00085
CURRENT APPLICATION NUMBER: US/10/498,327
CURRENT FILING DATE: 2004-06-10
PRIOR APPLICATION NUMBER: PCT/IB02/05761
PRIOR PILING DATE: 2004-06-10
NUMBER OF SEQ ID NOS: 262
SOFTWARE: PatentIn version 3.2
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ORGANISM: Chlamydia trachomatis
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; APPLICANT: Grandi, Guido
; APPLICANT: Ratti, Giulio
; TITLE OF INVENTION: Immunisation Against Chlamydia Trachomatis; FILE REPERENCE: 002441.00085; CURRENT APPLICATION NUMBER: US/10/498,327; CURRENT PILING DATE: 2004-06-10; PRIOR APPLICATION NUMBER: PCT/IB02/05761; REPER OF SEQ ID NOS: 262
; SOFTWARE: Patentin version 3.2; SOFTWARE: Patentin version 3.2; SEQ ID NO 8.2
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US-10-498-327-83
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TYPE: PRT
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US-10-498-327-83
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                                                                    TYPE: PRT ORGANISM: Chlamydia trachomatis
          PRIOR FILING DATE: 2002-12-12
NUMBER OF SEQ ID NOS: 262
SOFTWARE: Patentin version 3.2
SEQ ID NO 81
                                                          LENGTH: 1013
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APPLICANT: Ratti, Giulio
TITLE OF INVENTION: Immunisation Against Chlamydia Trachomatis
FILE REFERENCE: 002441.00085
CURRENT APPLICATION NUMBER: US/10/498,327
CURRENT FILING DATE: 2004-06-10
PRIOR APPLICATION NUMBER: PCT/IB02/05761
PRIOR FILING DATE: 2002-12-12
NUMBER OF SEQ ID NOS: 262
SOFTWARE: Patentin version 3.2
SEQ ID NO 93
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96.6%; Pred. No. 0;
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    Sequence 93, Application US/10498327
Publication No. US20050106162A1
GENERAL INFORMATION:
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; TYPE: PRT
; ORGANISM: Chlamydia trachomatis
US-10-498-327-93
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Publication No. US20050106162A1
GENERAL INFORMATION:
APPLICANT: Grandi, Guido
APPLICANT: Ratti, Giulio
TITLE OF INVENTION: Immunisation Against Chlamydia Trachomatis
FILE REFERENCE: 002441.00085
CURRENT APPLICATION NUMBER: US/10/498,327
CURRENT FILING DATE: 2004-06-10
PRIOR FILING DATE: 2002-12-12
NUMBER OF SEQ ID NOS: 262
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Best Local Similarity 96.5%; Pred. No. 0;
Matches 978; Conservative 23; Mismatches
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SEQ ID NO 3
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Publication No. US20050106162A1
GENERAL INFORMATION
APPLICANT: Grandi, Guido
APPLICANT: Grandi, Guido
ITILE OF INVENTION: Immunisation Against Chlamydia Trachomatis
FILE REFERENCE: 002441.00085
CURRENT APPLICATION NUMBER: US/10/498,327
CURRENT APPLICATION NUMBER: PCT/IB02/05761
PRIOR APPLICATION NUMBER: PCT/IB02/05761
PRIOR PILING DATE: 2002-12-12
NUMBER OF SEQ ID NOS: 262
SOFTWARE: Patentin version 3.2
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PRIOR APPLICATION NUMBER: US/09/612,402B PRIOR FILING DATE: 2000-07-06 PRIOR APPLICATION NUMBER: 08/942,596 PRIOR FILING DATE: 1997-10-02 NUMBER OF SEQ ID NOS: 43 SOFTWARE: Patentin version 3.0 SEQ ID NO 625 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO 635 DATE OF 100 NO
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Best Local Similarity 100.0%; Pred. No. 0;
Matches 984; Conservative 0; Mismatches
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Secuence 43, Application US/10701844
Publication No. US20040067524A1
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
M. James
APPLICANT: Jackson, W. James
APPLICANT: Pace, John
TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
FILE REFERENCE: 7969-086-999
CURRENT APPLICATION NUMBER: US/10/701,844
CURRENT FILING DATE: 2003-11-04

-10-701-844-43

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Publication No. US20050048557A1

GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Jackson, W. James
APPLICANT: Pace, John
ITITLE OF INVENTION:
CURRENT APPLICATION NUMBER: US/10/931,779

CURRENT FILING DATE: 2004-09-01

PRIOR FILING DATE: 200-04-03

NUMBER OF SEQ ID NOS: 43

SOFTWARE: Patentin version 3.0

SEQ ID NO 43

LENGTH: 984
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Matches 984; Conservative 0; Mismatches
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Publication No. U820040137005A1

GENERAL INFORMATION:

APPLICANT: Jackson, W. James

APPLICANT: Pace, John

ITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof

FILE REFERENCE: 7969-062-999

CURRENT APPLICATION NUMBER: U8/08/942,596

FRIOR APPLICATION NUMBER: U8/08/942,596

FRIOR PLING DATE: 1997-10-02

NUMBER OF SEQ ID NOS: 43

SOFTWARE: Patentin version 3.0
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Matches 984; Conservative
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ORGANISM: Chlamydia sp. US-10-766-711-43
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      SMGSGGKITTLRAKAGHQILFNDPIEMANGNNQPAQSSKLLKINDGEGYTGDIVFANGSS
                                                                                                                          TLYQNYTEQGRIVLREKAKLSVNSLSQTGGSLYMEAGSTWDFVTPQPPQQPPAANQLIT
                                                                                                                                  KATWTKTGYNPGPERVASLVPNSLWGSILDIRSAHSAIQASVDGRSYCRGLWVSGVSNFF
                                     NTSNNYGDGGAI FCKNGAQAGSNNSGSVSFDGBGVVFFSSNVAAGKGGAI YAKKLISVANC
                                                                 GPVQFLRNIANDGGAIYLGESGELSLSADYGDIIFDGNLKRTAKENAADVNGVTVSSQAI
                                                                         GPVQFLRNIANDGGAIYLGESGELSLSADYGDIIFDGNLKRTAKENAADVNGVTVSSQAI
                                                                                              SMGSGGKITTLRAKAGHQILFNDPIEMANGNNQPAQSSKLLKINDGEGYTGDIVFANGSS
                                                                                                                                                       LSNLHLSLSSLLANNAVTNPPTNPPAQDSHPAVIGSTTAGSVTISGPIFFEDLDDTAYDR
                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 17. Application US/10498327

Publication No. US20050106162A1

GENERAL INFORMATION:
APPLICANT: Gradd, Guido
TITLE OF INVENTION: Immunisation Against Chlamydia Trachomatis
TITLE OF INVENTION: Immunisation Against Chlamydia Trachomatis
FILE REFERENCE: 002441.00085
CURRENT FILING DATE: 2004-06-10
PRIOR PILING DATE: 2004-06-10
PRIOR FILING DATE: 2002-12-12
NUMBER OF SEQ ID NOS: 262
SOFTWARE: Patentin version 3.2
SOFTWARE: Patentin version 3.2
                                                                                                                                                                                                                                                                                                                                                                     GHGRYEYRDASRGYGLSAGSRVRF 1012
                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT ORGANISM: Chlamydia trachomatis
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US-10-498-327-17
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                                                                               SAGELTLKNLDNSIAALPLSCFGNLLGSFTVLGRGHSLTFENIRTSTNGAALSNSAADGL 120
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                                                                                                                                   1 MOTSPHKFFLSMLLAYSCCSLSGGGYAAEIMIPQGIYDGBTLTVSFPYTVIGDPSGTTVF
                                                                                          1 MOTSPHKFFLSMILAYSCCSLNGGGYAAEIMVPQGIYDGETLTVSFPYTVIGDPSGTTVF
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k; Score 5112.5;
k; Pred. No. 0;
23; Mismatches
  97.1%;
96.4%;
  Query Match 97.1
Best Local Similarity 96.4
Matches 977; Conservative
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; ORGANISM: Chlamydia Bp.
US-10-701-844-16
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Best Local Similarity
Matches 980; Conserv
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                                US-10-701-844-15

Sequence 15, Application US/10701844

Publication No. US20040067524A1

Publication No. US20040067524A1

GENERAL INFORMATION:

APPLICANT: Jackson, W. James

APPLICANT: Pace, John

TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof

FILE REFERENCE: 7969-086-999

CURRENT FILING DATE: 2003-11-04

PRIOR APPLICATION NUMBER: US/10/701,844

CURRENT FILING DATE: 2000-07-06

PRIOR APPLICATION NUMBER: 08/992,596

PRIOR FILING DATE: 1997-10-02

NUMBER OF SEQ ID NOS: 43

SOFTWARE: Patentin version 3.0

SEQ ID NO 15

LENGTH: 1013
                                                                                                                                                                                                                                                                                                                                                                                                           1 MOTSPHKEPLSMILAYSCCSLNGGGYAARIMVPQGIYDGETLTVSPPYTVIGDPSGTTVF
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97.0%; Score 5106.5; DB 4; Length 1013;
Best Local Similarity 96.7%; Pred. No. 0;
Matches 980; Conservative 17; Mismatches 15; Indels 1;
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US-10-701-844-15
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| Sequence 16, Application No. US20040067524A1
| Publication No. US20040067524A1
| GENERAL INFORMATION:
| APPLICANT: Jackson, W. James
| APPLICANT: Pace, John
| TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
| FILE REFERENCE: 7969-086-999
| CURRENT APPLICATION NUMBER: US/09/612,402B
| PRIOR PILING DATE: 2003-11-04
| PRIOR PILING DATE: 1997-10-02
| PRIOR APPLICATION NUMBER: 08/942,596
| PRIOR FILING DATE: 1997-10-02
| WUMBER OF SEQ ID NOS: 43
| SOFTWARE: Patentin Version 3.0
| SEQ ID NO 16
                                                                                                                                                                                                                                                                   720 RSAHSAIQASVDGRSYCRGLWVSGVSNPPYHDRDALGQGYRYISGGYSLGANSYPGSSMF
                                                                                                                 721 RSAHSAIQASVDGRSYCRGLWVSGVSNPFYHDRDALGQGYRYISGGYSLGANSYFGSSMF
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                       GNEMPKYGYQGSWKLAMDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGSILDI
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SLYMEAGSTWDFVTPQPPQQPPAANQLITLSNLHLSLSSLLANNAVTNPFTNPPAQDSHP 599
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                            241 VAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEFDGNVARVGGGIXSYGNVAFL 300
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                                                        VAGVRGGGIAAVODGOQGVSSTSTEDPVVSFSRNTAVEFDGNVARVGGIYSYGNVAFL
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                                                                                            AVIGSTTAGSVTISGPIFFEDLDDTAYDRYDWIGSNOKINVLKLOLGTKPPANAPSDLTL
RESULT 20
US-10-766-711-16
Sequence 16, Application US/10766711
Publication No. US20040137005A1
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                         NQPAQSSKLLKINDGEGYTGDIVFANGSSTLYQNVTIEQGRIVLREKAKLSVNSLSQTGG
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US-10-766-711-15
Sequence 15, Application US/10766711
Publication No. US20040137005A1
GENERAL INFORMATION:
APPLICANT: Jackson, W. James
APPLICANT: Jackson, W. James
TILES OF INVENTION: Chlamydia Protein, Gene Seq
FILE REFERENCE: 7969-062-999
CURRENT APPLICATION NUMBER: US/10/766,711
CURRENT FILING DATE: 2004-01-27
PRIOR APPLICATION NUMBER: US/08/942,596
PRIOR FILING DATE: 1997-10-02
NUMBER OF SEQ ID NOS: 43
SEQ ID NO 15
LENGTHA: 1013
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96.7%; Pred. No. 0;
ive 17; Mismatches
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; ORGANISM: Chlamydia
US-10-766-711-15
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Matches 980;
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APPLICANT: Jackson, W. James
APPLICANT: Pace, John
TITLE OF INVENTION: Chlamydia Protein, Gene Seq
FILE REPERENCE: BP104
CURRENT APPLICATION NUMBER: US/10/931,779
CURRENT FILLING DATE: 2004-09-01
PRIOR APPLICATION NUMBER: 09/542,520
PRIOR APPLICATION NUMBER: 09/542,520
NUMBER OF SEQ ID NOS: 43
SOFTWARE: Patentin version 3.0
SEQ ID NO 15
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96.7%; Pred. No. 0;
ive 17; Mismatches
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Best Local Similarity 96.7%
Matches 980; Conservative
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ORGANISM: Chlamydia sp.
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US-10-931-779-15
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GENERAL INFORMATION:
APPLICANT: Jackson, W. James
APPLICANT: Packson, W. James
TITLE OF INVENTION: Chlamydia Protein, Gene Seq
FILE REFERENCE: 7969-062-999
CURRENT PPLICATION NUMBER: US/10/766,711
CURRENT FILING DATE: 2004-01-27
PRIOR FILING DATE: 1997-10-02
NUMBER OF SEQ ID NOS: 43
SOFTMARE: Patentin Version 3.0
SEQ ID NO 16
                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Chlamydia sp.
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US-10-766-711-16
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                                                                                                             VAGVRGGGIAAVQDGQQGVSSTSTEDPVVSFSRNTAVEFDGNVARVGGGIXSYGNVAFL
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Patent No. US20202061848A1
GENERAL INFORMATION:
APPLICANT: Bhatia, Ajay
APPLICANT: Probst, Peter
TITLE OF INVENTION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION: COMPANION:
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US-09-841-132-190
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APPLICANT: Jackson, W. James
APPLICANT: Pace, John
TITE OF INVENTION: Chlamydia Protein, Gene Seq
FILE REPERENCE: BP104
CURRENT APPLICATION NUMBER: US/10/931,779
CURRENT FILING DATE: 2004-09-01
PRIOR APPLICATION NUMBER: 09/542,520
PRIOR APPLICATION NUMBER: 09/542,520
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patentin version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 97.0%; Score 5106.5; Best Local Similarity 96.7%; Pred. No. 0; Matches 980; Conservative 15; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 16, Application US/10931779
Publication No. US20050048557A1
GENERAL INFORMATION:
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CRGANISM: Chlamydia sp. US-10-931-779-16
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US-10-931-779-16
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SNNYGDGGAIFCKNGAQAGSNNSGSVSFDGBGVVFFSSNVAAGKGGAIYAKKLSVANCGP 390
       925 YSFMAAYICDAYRTISGTETTLLSHQETWTTDAFHLARHGVVVVRGSMYASLTSNIEVYGH 984
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APPLICANT: Shatia, Ajay
APPLICANT: Skeiky, Yasir A.W.
APPLICANT: Skeiky, Yasir A.W.
APPLICANT: Skeiky, Yasir A.W.
TITLE OP INVENTION: COMPOUNDS AND METHODS FOR TREATMENT AND TITLE OP INVENTION: DIAGNOSIS OF CHIAMYDIAL INFECTION
TITLE OP INVENTION: DIAGNOSIS OF CHIAMYDIAL INFECTION
TITLE OP INVENTION: DIAGNOSIS OF CHIAMYDIAL INFECTION
CURRENT PILING DATE: 2004-06-18
FRIOR PILING DATE: 2000-07-20
FRIOR PILING DATE: 2000-06-19
FRIOR PILING DATE: 2000-04-19
FRIOR PILING DATE: 1999-10-02
FRIOR APPLICATION NUMBER: 09/456,684
FRIOR PILING DATE: 1999-10-22
FRIOR PILING DATE: 1999-10-22
FRIOR PILING DATE: 1999-10-22
FRIOR PILING DATE: 1999-10-22
FRIOR PILING DATE: 1999-10-22
FRIOR PILING DATE: 1999-10-01
FRIOR PILING DATE: 1999-10-01
FRIOR APPLICATION NUMBER: 09/426,571
FRIOR APPLICATION NUMBER: 09/208,277
FRIOR APPLICATION NUMBER: 09/208,277
FRIOR APPLICATION NUMBER: 09/208,277
FRIOR PILING DATE: 1999-10-03
FRIOR FILING DATE: 1999-10-03
FRIOR PILING DATE: 1998-12-08
FRIOR FILING DATE: 1908-12-08
FRIOR FILING DATE: 1908-12-08
FRIOR FILING DATE: 1908-12-08
FRIOR FILING DATE: 1908-12-08
FRIOR FILING DATE: 1908-12-08
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Pred. No. 0;
2; Mismatches
                                                                                     RESULT 24
US-10-872-155-190
; Sequence 190, Application US/10872155
; Publication No. US20040234536A1
; GENERAL INFORMATION:
                                                          GRYEYRDASRGYGLSAGSRVRF
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Best Local Similarity 99.7'
Matches 979; Conservative
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ORGANISM: Chlamydia
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                                                                                                                                                                            Query Match 96.6%; Score 5090; DB 3; Length 1006; Best Local Similarity 99.7%; Pred. No. 0; Matches 979; Conservative 2; Mismatches 1; Indels 0
SOFTWARE: FastSEQ for Windows Version 3.0/4.0 SEQ ID NO 190 LENGTH: 1006
                                                                       TYPE: PRT
ORGANISM: Chlamydia
US-09-841-132-190
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   Sequence 105. Application US/09841132

Sequence No. US/20020061848A1

Sequence No. US/20020061848A1

GENERAL INFORMATION:

APPLICANT: Bhatia, Ajay

APPLICANT: Skeik, Yasir A.W.

APPLICANT: Probst, Peter

TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATMENT AND

TITLE OF INVENTION: DAGGNOSIS OF CHLAMYDIAL INFECTION

FILE REPERENCE: 210121.465C8

CURRENT PAPLICATION NUMBER: US/09/841,132

CURRENT PILING DATE: 2001-04-23

NUMBER OF SEQ ID NOS: 599

SOUTHARE: FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FESTERE FEST
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96.5%; Score 5084; D

Best Local Similarity

99.6%; Pred. No. 0;

Matches 978; Conservative

2; Mismatches
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; OTHER INFORMATION: Xaa
US-09-841-132-176
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ORGANISM: Chlamydia
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US-09-841-132-176
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; Sequence 169, Application US/10197220
; Publication No. US20050084499A1
; GENERAL INFORMATION:
    APPLICANT: Bhatia, Ajay
; APPLICANT: Gudarian, Jeff
; APPLICANT: Skeiky, Yasir A. W.
    APPLICANT: Skeiky, Yasir A. W.
    TITLE OF INVENTION: COMPOUNDS AND METHODS FOR TREATMENT
    TITLE OF INVENTION: COMPOUNDS OF CHLAMYDIAL INFECTION
    TITLE OF INVENTION: AND DIAGNOSIS OF CHLAMYDIAL INFECTION
    TITLE OF INVENTION: AND DIAGNOSIS OF CHLAMYDIAL INFECTION
    TITLE OF INVENTION NUMBER: US/10/197,220
    CURRENT APPLICATION NUMBER: 2002-07-15
    NUMBER OF SEQ ID NOS: 175
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ORGANISM: Chlamydia
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       GENERAL INFORMATION:
APPLICANT: Sheifs, Yasir A.W.
APPLICANT: Skeiky, Yasir A.W.
APPLICANT: Brobst, Pects
I APPLICANT: PLOBST, PECDST,
FILL OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION
TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL INFECTION
FILE REPERENCE: 210121.469010
CURRENT APPLICATION NUMBER: US/10/872,155
CURRENT FILING DATE: 2000-07-20
PRIOR PELLING DATE: 2000-07-20
PRIOR APPLICATION NUMBER: 09/550,819
PRIOR PELLING DATE: 2000-04-19
PRIOR PELLING DATE: 1999-12-03
PRIOR PELLING DATE: 1999-12-03
PRIOR PELLING DATE: 1999-10-02
PRIOR PELLING DATE: 1999-10-01
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: VARIANT
LOCATION: (1)...(982)
OTHER INFORMATION: Xaa = Any Amino Acid
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; Sequence 17, Application No. US20040067524A1
; Bublication No. US20040067524A1
; CENERAL INFORMATION:
; APPLICANT: Jackson, W. James
; APPLICANT: Pacc, John
; TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
; TILE REFERENCE: 7969-086-999
; CURRENT APPLICATION NUMBER: US/10/701,844
; CURRENT FILING DATE: 2003-11-04
; PRIOR PLILOM DATE: 1297-10-02
; PRIOR APPLICATION NUMBER: 08/942,596
; PRIOR PILING DATE: 1997-10-02
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patentin version 3.0
; SEQ ID NO 17
; LENGTH: 505
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                                                                                                     SFTVLGRGHSLTFENIRTSTNGAALSNSAADGLFTIEGFKELSFSNCNSLLAVLPAATTN
                                                                                                                        148 KGSQTPTTTSTPSNGTIYSKTDLLLLNNEKPSFYSNLVSGDGGAIDAKSLTVQGISKLCV
                                                                                                                                                                                               121 NGSQTPTTSTPSNGTIYSKTDLLLIANNEKFSFYSNLVSGDGGAIDAKSLTVQGISKLCV
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                                 28 ABIMVPQGIYDGETLIVSFPYTVIGDPSGTIVFSAGELTLKNLDNSIAALPLSCFGNLLG
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   Conservative
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i OKGANISM: Chlamydia sp. US-10-701-844-17
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                                                                                                                                                                                                                                        NCGPVQFLRNIANDGGAIYLGESGELSLSADYGDIIFDGNLKRTAKENAADVNGVTVSSQ 446
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                                                                                                                                                                                                                                                                                                                                                                                                          241 PVVSFSRNTAVEFDGNVARVGGGIYSYGNVAFLNNGKTLFLANNVASPVXIAAEQPTNGQA
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                                           181 FQENTAQADGGACQVVTSFSAMANEAPIAFIANVAGVRGGIAAVQDGQCGVSSSTSTED
                          POENTAQADGGACQVVTSFSAMANEAPIAFVANVAGVRGGIAAVQDGQQGVSSSTSTED
                                                                                             PVVSPSRNTAVEPDGNVARVGGGIYSYGNVAFLNNGKTLFLNNVASPVYIAAKQPTSGQA
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Pred. No. 3.6e-238;
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Sequence 169, Application US/11109468

Publication No. US20050232941A1

SEGREAL INFORMATION:

APPLICANT: Bhatia, Alay

APPLICANT: Guderian, Jeff

APPLICANT: Sakairy, Yaalr A. W.

TITLE OF INVENTION: COMPOUNDS AND METHODS FOR TREATMENT

TITLE OF INVENTION: COMPOUNDS AND METHODS FOR TREATMENT

TITLE OF INVENTION: AND DIAGNOSIS OF CHLAMYDIAL INFECTION

FILE REFERENCE: 21011.515C4

CURRENT APPLICATION NUMBER: US/11/109,468

CURRENT PILING DATE: 2005-04-19

PRIOR PILING DATE: 2002-07-15

PRIOR PILING DATE: 2001-11-05

PRIOR FILING DATE: 2001-11-05

PRIOR PILING DATE: 2001-11-05

PRIOR PILING DATE: 2001-04-23

PRIOR PILING DATE: 2001-04-23

PRIOR PILING DATE: 2000-07-20

PRIOR PILING DATE: 2000-07-20

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Best Local Similarity
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US-11-109-468-169
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APPLICANT: Jackson, W. James
APPLICANT: Face, John
TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
FILE REPRENCE: BP104
CURRENT PELICATION NUMBER: US/10/931,779
CURRENT FILING DATE: 2004-09-01
PRIOR APPLICATION NUMBER: 09/542,520
PRIOR PLEING DATE: 200-04-03
NUMBER OF SEQ ID NOS: 43
SOFTWARE: Patentin version 3.0
LENGTH: 505
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48.5%; Score 2552; DB 5; L
Best Local Similarity 100.0%; Pred. No. 3.3e-180;
Matches 505; Conservative 0; Mismatches 0;
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// Publication No. US20050048557A1
// GENERAL INPORMATION:
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ORGANISM: Chlamydia sp.
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US-10-931-779-17
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US-10-931-779-17
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                 Query Match
48.5%; Score 2552; DB 4; L
Best Local Similarity 100.0%; Pred. No. 3.3e-180;
Matches 505; Conservative 0; Mismatches 0;
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48.5%; Score 2552; DB 4; L
Best Local Similarity 100.0%; Pred. No. 3.3e-180;
Matches 505; Conservative 0; Mismatches 0;
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PUDICALION NO. US20040137005A1
GENERAL INFORMATION:
APPLICANT: Jackson, W. James
APPLICANT: Pace, John
TITLE OF INVENTION: Chlamydia Protein, Gene Sequence Right REFERENCE: 7969-662-999
CURRENT APPLICATION NUMBER: US/10/766,711
CURRENT FILING DATE: 2004-01-27
PRIOR APPLICATION NUMBER: US/08/942,596
NUMBER OF SEQ ID NOS: 43
SOFTWARE: Petentin version 3.0
SEQ ID NOS: 43
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ORGANISM: Chlamydia sp.
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Best Local Similarity
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                                                                                                                                                                                                       APPLICANT: Jackson, W. James
APPLICANT: Jackson, W. James
APPLICANT: Pace, John
TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
FILE REFERENCE: 7969-062-999
CURRENT APPLICATION UNMER: US/10/766,711
PRIOR APPLICATION NUMBER: US/08/942,596
PRIOR FILING DATE: 1997-10-02
NUMBER OF SEQ. DI DNOS: 43
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; Publication No. US20050048557A1
; GENERAL INFORMATION:
; APPLICANT: Jackson, W. James
; APPLICANT: Pace, John
; TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof
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44.6%; Score 2350; DB 4; Length 458;
Best Local Similarity 100.0%; Pred. No. 2.7e-165;
Matches 458; Conservative 0; Mismatches 0; Indels
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                                     637 KINVLKLOLGTKPPANAPSDLTLGNEMPKYGYQGSWKL
                                                                                                                                                           Sequence 36, Application US/10766711 Publication No. US20040137005A1 GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: Chlamydia sp.
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                                                                                                                                                                                                       448
                                                                                                                                                      Sequence 36, Application US/10701844

Fublication No. US20040067524A1

GENERAL INFORMATION:

APPLICANT: Jackson, W. James

APPLICANT: Pace, John

TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof

FILE REPERENCE: 7969-086-999

CURRENT APPLICATION NUMBER: US/10/701,844

CURRENT FILING DATE: 2003-11-04

PRIOR PILING DATE: 2003-07-06

PRIOR PRILING DATE: 1997-10-02

PRIOR FILING DATE: 1997-10-02

PRIOR FILING DATE: 1997-10-02

NUMBER OF SEQ ID NOS: 43

COPPURADE: DATE: 1997-10-02
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   241 VVSPSRNTAVEPGRNVARVGGGIYSYGNVAFLANGKTLFLANNASPVYIAAKQPTSGQAS
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44.6%; Score 2350; DB 4; Length 458;
Best Local Similarity 100.0%; Pred. No. 2.7e-165;
Matches 458; Conservative 0; Mismatches 0; Indels
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US-10-701-844-36
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Length 325;
      Ouery Match 32.9%; Score 1735; DB 4; I
Best Local Similarity 100.0%; Pred. No. 6.2e-120;
Matches 325; Conservative 0; Mismatches 0;
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ORGANISM: Chlamydia sp.
US-10-766-711-37
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US-10-766-711-37
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Publication No. US20040067524A1

GENERAL INFORMATION:

APPLICANT: Jackson, W. James

APPLICANT: Pacce, John

TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof

FILE REFERENCE: 7969-086-999

CURRENT APPLICATION NUMBER: US/10/701,844

CURRENT FILING DATE: 2003-11-04

PRIOR PLIING DATE: 2003-11-04

PRIOR PLIING DATE: 1997-10-02

NUMBER OF SEQ ID NOS: 43

SEQ ID NO 37

LENGTH: 325
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44.6%; Score 2350; DB 5; L
Best Local Similarity 100.0%; Pred. No. 2.7e-165;
Matches 458; Conservative 0; Mismatches 0;
FILE REFERENCE: BP104
CURRENT APPLICATION NUMBER: US/10/931,779
CURRENT FILING DATE: 2004-09-01
PRIOR PILING DATE: 200-04-03
PRIOR FILING DATE: 200-04-03
NUMBER OF SEQ ID NOS: 43
SOFTWARE: Patentin version 3.0
SEQ ID NO 36
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1 ORGANISM: Chlamydia sp.
US-10-701-844-37
                                                                                                                                                                 ORGANISM: Chlamydia sp. U8-10-931-779-36
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US-10-701-844-37
                                                                                                                                                    TYPE: PRT
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Publication No. US20040137005A1

GENERAL INPORMATION:

APPLICANT: Jackson, W. James

APPLICANT: Pace, John

TITLE OF INVENTION:

TILE REPERENCE: 7969-062-999

CURRENT APPLICATION NUMBER: US/10/766,711

CURRENT PILING DATE: 1204-01-27

PRIOR FILING DATE: 1997-10-02

NUMBER OF SEQ ID NOS: 43

SOFTWARE: Patentin version 3.0

SEQ ID NO 37

LENGTH: 325
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LENGTH: 973
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                                                                                                Sequence 37, Application US/10931779

Fublication No. US20050048557A1

GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: Jackson, W. James

TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof

TITLE OF INVENTION: Chlamydia Protein, Gene Sequence and Uses Thereof

FILE REPERENCE: BP104

CURRENT APPLICATION NUMBER: US/10/931,779

CURRENT FILING DATE: 200-04-09

FRIOR PILING DATE: 200-04-03

NUMBER OF SEQ ID NOS: 43

SOFTWARE: Patentin version 3.0

SEQ ID NO 37

LENGTH: 325
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TILLE OF INVENTION: IMMUNISATION AGAINST CHLAMYDIA PNEUMONIAE

TILLE OF INVENTION: IMMUNISATION AGAINST CHLAMYDIA PNEUMONIAE

FILE REPREBRENCE: P025035M0;
CURRENT APPLICATION WUMBER: US/10/312,273

CURRENT FILING DATE: 2002-12-20

PRIOR PILING DATE: 2000-07-03

PRIOR PILING DATE: 2000-07-03

PRIOR PILING DATE: 2000-07-11

PRIOR PILING DATE: 2000-07-11

PRIOR FILING DATE: 2000-07-11

PRIOR FILING DATE: 2000-07-11

PRIOR FILING DATE: 2000-07-21

PRIOR PILING DATE: 2000-07-21
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               301 YGHGRYEYRDASRGYGLSAGSRVRF 325
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US-10-312-273-3
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PRIOR FILING DATE: 2000-08-07
PRIOR APPLICATION NUMBER: 0020440.4
PRIOR PILING DATE: 2000-08-18
PRIOR PILING DATE: 2000-09-14
PRIOR APPLICATION NUMBER: 0025583.9
PRIOR APPLICATION NUMBER: 0027549.5
PRIOR PILING DATE: 2000-11-10
PRIOR APPLICATION NUMBER: 0031706.5
PRIOR APPLICATION NUMBER: 0031706.5
PRIOR APPLICATION NUMBER: 0031706.5
NUMBER OF SEQ ID NOS: 664
SOFTWARE: SEGWIN99, version 1.02
                                                                                                                                                                                                                                                                                                                          TYPE: PRT ORGANISM: Chlamydia pneumoniae
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Sequence 2, Application US/09428122

Sequence 2, Application US/09428122

Publication NO. US2003017025941

GENERAL INFORMATION:

APPLICANT: Connaught Laboratories Limited

APPLICANT: MIGHIN et al.

TITLE OF INVENTION: CHLAMYDIA ANTIGENS AND CORRESPONDING DNA FRAGMENTS AND

TITLE OF INVENTION: USES THEREOF

FILE REPERENCE: 19721-007-019

CURRENT APPLICATION NUMBER: 60/106,046

EARLIER APPLICATION NUMBER: 60/106,046

EARLIER APPLICATION NUMBER: 60/106,046

EARLIER APPLICATION NUMBER: 60/132,271

EARLIER FILING DATE: 1999-05-03

NUMBER FO SEQ ID NOS: 4
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                                              ADYGDIIFDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEM
                        VSPDGEGVVFFSSNVAAGKGGAIYAKKLSVANCGPVQFLRNIANDGGAIYLGESGELSLS
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ORGANISM: Chlamydia pneumoniae
US-09-428-122-2
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SEQ ID NO 2
LENGTH: 928
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JITLE OF INVENTION: CHLAMYDIA ANTIGENS AND CORRESPONDING DNA FRAGMENTS AND
JITLE OF INVENTION: USES THERROF
FILE REFERENCE: 19721-011
CURRENT APPLICATION NUMBER: US/10/352,618
CURRENT APPLICATION NUMBER: US/99/430,723
PRIOR APPLICATION NUMBER: BARLIER APPLICATION NUMBER: 60/106,590
PRIOR APPLICATION NUMBER: BARLIER APPLICATION NUMBER: 60/106,590
PRIOR PILING DATE: EARLIER FILING DATE: 1999-11-02
PRIOR PILING DATE: EARLIER FILING DATE: 1999-05-07
PRIOR PILING DATE: EARLIER FILING DATE: 1999-05-07
PRIOR FILING DATE: EARLIER FILING DATE: 1999-05-07
PRIOR FILING DATE: EARLIER FILING DATE: 1999-05-07
SEQ ID NO 2
SEQ ID NO 2
LENGTH: 973
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                                                                                                                                                                       TPSKLYLNELRPFVQAEFSYADHESFTEEGDQARAFKSGHLLNLSVPVGVKFDRCSSTHP 928
                                                                                                                                                                                             SSRILNLKQIIPFVKAEVAYATHGGIQENTPEGRIFGHGHLLNVAVPVGVRFGKNSHNRP 889
                                                                                                                                                                                                                                                                                SAGELTLKNLDNSIAALPLSCFGNLLGSFTVLGRGHSLTFENIRTSTNGAALSNSAADG- 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---LPTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTDLLLLNNE 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            177 KFSFYSNLVSGDGGAIDAKSLTVQGISKLCVFQENTAQADGGACQVVTSFSAMANEAPIA 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       166 SILPQYNRSAGPGAAIRGTSITIENTKKSLLFNGNGSISNGGALTGSAAINLINNSAPVI 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              226 FSTNATGIYGGAIYLT-----GGSMLTS------GNLGGVLFVNNSSRGGAIYANGN 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VTPSNNSDLTPQNNTASPQNSLPAPTPPPTTPPAVTP-LLGYGGAIFCTPPATPPFTGV-S 330
                                                                                                                                                                                                                                                          NKYSFMAAYICDAYRIISGTETTLLSHQETWITDAFHLARHGVVVRGSMYASLISNIEVY 988
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                                                                                                             DALGOGYRYISGGYSLGANSY --- FGSSMFGLAFTEVFGRSKDYVVCRSNHHACIGSVYL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25.8%; Score 1359.5; DB 4; Length 973; llarity 33.4%; Pred. No. 2.1e-91; Conservative 171; Mismatches 421; Indels 103;
                                                                                                                                                                                                                                                                                                                                              GHGRYEYRDASRGYGLSAGSRVRF 1012
                                                                                                                                                                                                                                                                                                                                                                                       GHCGCDIRRTSRQYTLDIGSKLRF 973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 2, Application US/10352618
Publication No. US20040022801A1
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
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Best Local Simi
Matches 349;
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US-10-352-618-2
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Query Match Best Local Matches 31	<pre>ch 21.4%; Score.1128; DB 3; Length 928; 1 Similarity 29.2%; Pred. No. 2.8e-74; 311; Conservative 169; Mismatches 394; Indels 192; Gaps 32;</pre>
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qq	
È	60 FSAGELTLKNLDNSIAALPLSCFGNLLGSFTVLGRGHSLTFENIRTST-NGAALSNSAAD 118
qq	55 LPKGNVTLENIPGTGTAITKSCFNNTKGDLTFTGNGNSLLFQTVDAGTVAGAAVNSSVVD 114
δ,	119 GLFTIBGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTDLLLLNNEKF 178
Dp 1	5
2	179 SFYSNLVSGDGGAIDAKSLTVQGISKLCVFQENTAQADGGACQVVTSFSAMANEAPIAFV 238
do 1	158 LPSKNPSTDNGGAÍTAKTLSLTGTTMSALFSENTSSKKGGAÍQTSDALTITGNGGEVSF- 216
è	53
e e	217GAAIFTEASVT 235
°,	299 FLNNGKTLFLNNVASPVYIAAKQPTSGQASNTSNNYGDGGAIFCKNGAQAGSNNSGSVSF 358
d d	DNKVTGASSST
ë 8	s 41
Db da	279 TGNOMLLFSNNTSTTAGGAIYVKKLELASGGLTLFSRNSVNGGTAPKGGAIAIEDSGELS 338
ò	LSADYGDIIFDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPI
a a	339 LSADSGDIVFLGNTVTSTTPGTNRSSIDLGTSAKMTALRSAAGRAIYFYDPI 390
č	
q	391 TTGSSTTVTDVLKNETPADSALQYTGNIIFTGEKLSETEAADSKNLTSKLLQPVT 446
È	516 IEGGRIVLREKAKLSVNSLSQTGGS-LYMEAGSTWDFVTPQPPQQPPAANQLITLSNLHL 574
qa	HGVTLQTQAFTQQADSRLEMDVGTTL
Š	575 SLSSLLANNAVINPPINPPAQDSHPAVIGS-TTAGSVTISGPIFFBDLDDTAYDRYDWLG 633
qq	: E
ò	634 SNQKINVLKLQL-GTKPPANAPSDLTLGNEMPKYGYQGSW-KLAMDPNTANNGPYTLKAT 691
qq	539 NPQSYDILELKASGIVISTAVIPDPIMGEKF-HYGYQGIWGPIVWGTGASTIAIFN 593
8	
qq	594 WIKTGYIPNPERIGSLVPNSIMNAFIDISSLHYLMETANEGLQGDRAFWCAGLSNFFKD 653
È	752 RDALGQGYRYISGGYSLGANSYFGS-SMFGLAFTEVFGRSKDYVVCRSNHHACIGSVYLS 810
අු	654 STKTRRGFRHLSGGIVIGGNLHTCSDKILSAARCQLFGRDYFVAKNQGTVYGG 708
È	811 TQQALCGSYLFGDAFI
e e	709 TLXYQHNETYİSLPCKLRPCSLSYVPTEIPVLFSGNLSYTHTDNDLKTKYTTYPT 763
È	847 SDVRWDNNCLAGEIGAGLPIVITPSKLYLNELRPFVQAEFSYADHESFTEEGDQARAFKS 906
qq	764 VKGSWGNDSFALEFGGRAPICLDESALF-EQYMPFMKLQFVYAHQEGFKEQGTEAREFGS 822
ò	96
Q	823 SRLVNLALPIGIRPDKESDCQDATYNLTLGYTVDLVRSNPDCTTTLRISGDSWKTFGTNL 882

Search completed: May 13, 2006, 12:35:01 Job time : 176 secs



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May 13, 2006, 12:32:24; Search time 30 Seconds (without alignments) 1583.741 Million cell updates/sec
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1 MQTSFHKFFLSMILAYSCCS......XEXRDASRGYGLSAGSRVRF 1012
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1: /SIDSS/ptodata/2/pubpaa/US08 NEW PUB.pepl:*
2: /SIDSS/ptodata/2/pubpaa/US06 NEW PUB.pep:*
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11: /SIDSS/ptodata/2/pubpaa/US11 NEW PUB.pep:*
12: /SIDSS/ptodata/2/pubpaa/US11 NEW PUB.pep:*
GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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Perfect score:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Sequence 16, Ag Sequence 21, Ag Sequence 17, Ag Sequence 1, Apg Sequence 17, Sequence 41, Sequence 22, Sequence 15, Sequence 19, Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence US-11-103-957-9
US-11-018-868-21
US-11-018-868-23
US-11-103-957-7
US-11-1018-868-23
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Sequence 16, Appli Sequence 27, Appli Sequence 1245, Ap Sequence 91, Appl Sequence 18, Appl Sequence 11, Appl Sequence 171, Appl Sequence 171, Appl Sequence 22, Appl Sequence 24, Appl Sequence 24, Appl Sequence 28, Appl Sequence 28, Appl Sequence 38, Appl Sequence 38, Appl Sequence 38, Appl Sequence 38, Appl Sequence 20, Appl Sequence 20, Appl Sequence 20, Appl Sequence 20, Appl Sequence 20, Appl Sequence 179, Appl Sequence 179, Appl Sequence 219, Appl Sequence 310, Appl Sequence 310, Appl Sequence 310, Appl Sequence 310, Appl Sequence 310, Appl Sequence 310, Appl Sequence 310, Appl Sequence 310, Appl
1 US-11-052-554A-16 1 US-11-052-554A-2 1 US-11-087-099-1245 1 US-11-087-099-1245 1 US-11-052-554A-91 1 US-11-052-554A-91 1 US-11-052-554A-91 1 US-11-052-554A-171 1 US-11-052-554A-171 1 US-11-052-554A-179 1 US-11-052-554A-283 1 US-11-052-554A-283 1 US-11-052-554A-283 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284 1 US-11-052-554A-284
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ALIGNMENTS

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| Publication No. US20060034871A1
| GENERAL INFORMATION |
| APPLICANT: Chiron Corporation |
| APPLICANT: Chiron Corporation |
| APPLICANT: Bonci, Guido |
| APPLICANT: Bonci, Alessandro |
| APPLICANT: Pinco, Oretta |
| TITLE OF INVENTION: Immunogenic Compositions for Chlamydia trachomatis |
| FILE REPRENCE: 002441.00099 (PP23152.001) |
| CURRENT APPLICATION NUMBER: US/11/018,868 |
| CURRENT PILING DATE: 2004-12-22 |
| NUMBER OF SEQ ID NOS: 186 |
| SOFTWARE: Patentin version 3.2 |
| SEQ ID NO 21
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                                                                                                                                                                                                                        SLYMEAGSILDFVIPQPPQQPPAANQLITLSNLHLSLSSLLANNAVINPPINPPAQDSHP
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                                                                                                    Length
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                                                                                                Query Match 97.4%; Score 5131.5; Best Local Similarity 97.0%; Pred. No. 0; Matches 983; Conservative 18; Mismatches
; LENGTH: 1013
; TYPE: PRT
; ORGANISM: Chlamydia trachomatis
US-11-018-868-21
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102 NIRTSTNGAALSNSAADGLFTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSN 161
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Sequence 23, Application US/11018868

Publication No. US20060034871A1

GENERAL INFORMATION:
APPLICANT: Chiron Corporation
APPLICANT: Ratti, Guildo
APPLICANT: Bonci, Alessandro
APPLICANT: Finco, Orets
TITLE OF INVENTION: Immunogenic Compositions for Chlamydia trachomatis
FILE REPERENCE: 002441.00099 (PP23152.001)
CURRENT APPLICATION NUMBER: US/11/018,868
CURRENT PILING DATE: 2004-12-22
NUMBER OF SEQ ID NOS: 186
SOFTWARE: Patentin Version 3.2
SEQ ID NO 23
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---DTEKSVTIHAP 485
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                                                                                                                                                                                                                                                  727 QASVDGRSYCRGLWVSGVSNFFY-HDRDALG-QGYRYISGGYSLGANSY-FGSSMFGLAF
                                                                 ----IPFEDL-DDTAYDRYDWLGSNOKINVLKLQLGTKPPANAPSDLTL--GNEMPKY
                                                                                                486 NLSIQKIFLSNSGDENFYENJELLSKEQN-NIPLLT----SKEQSHLHLPDGNLSSHF
                                                                                                                                                                                     Query Match
14.6%; Score 771.5; DB 11; Length 878;
Best Local Similarity 26.5%; Pred. No. 2.5e-47;
Matches 268; Conservative 145; Mismatches 390; Indels 207; Gaps
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       ; TYPE: PRT
; ORGANISM: Chlamydia trachomatis
US-11-018-868-23
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US-11-018-868-23
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                                                                                                                                                                                                                             APPLICANT: Betther, Francois-Xavier Jacques
APPLICANT: Lobet, Yves
APPLICANT: Dobet, Yves
APPLICANT: Poolman, Jan
APPLICANT: Poolman, Jan
APPLICANT: Poolman, Jan
TITLE OF INVENTION: Vaccine Composition
TITLE OF INVENTION: Vaccine Composition
FILE REFERENCE: B45261
CURRENT APPLICATION NUMBER: US/11/103,957
CURRENT PILING DATE: 2005-04-12
FRIOR PTLING DATE: 2004-02-08
FRIOR APPLICATION NUMBER: PCT/EP02/01356
FRIOR APPLICATION NUMBER: GB 0103169-9
FRIOR APPLICATION NUMBER: GB 0103169-9
FRIOR APPLICATION NUMBER: GB 0103169-9
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                                                                                                                                                             Sequence 7, Application US/11103957
Publication No. US20050281847A1
GENERAL INFORMATION:
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| GENERAL INFORMATION: U820050281847A1
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| APPLICANT: Lobet, Yves
| APPLICANT: Poolman, Jan
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                                                                                                                                                     Indels 205;
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                                                                                                Query Match 12.3%; Score 649.5; DB 11; Best Local Similarity 25.8%; Pred. No. 1.8e-38; Matches 260; Conservative 155; Mismatches 389;
TYPE: PRT ORGANISM: Chlamydia trachomatis
                            ; ORGANIA....
US-11-103-957-13
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ORGANISM: Chlamydia trachomatis
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97 AKN----LTPESGGAIGYASPNSPTVEIRDTI---GPVIFENNTCCRLFTWRNPYAADKI
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                                                                                                                                                                                                             APPLICANT: Grandi, Guido
APPLICANT: Ratti, Guido
APPLICANT: Ratti, Guido
APPLICANT: Ratti, Guilo
APPLICANT: Bonci, Alessandro
APPLICANT: Brinco, Oretta
TITLE OF INVENTION: Immunogenic Compositions for Chlamydia trachomatis
FILE REPERRORE: 002441.00099 (PP23152.001)
CURRENT APPLICATION NUMBER: US/11/018,868
CURRENT FILING DATE: 2004-12-22
NUMBER OF SEQ ID NOS: 186
SEQ ID NOS: 186
SEQ ID NO 19
LENGTH: 964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      205;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 12.3%; Score 649.5; DB 11; Length 964; Best Local Similarity 25.8%; Pred. No. 1.8e-38; Antches 260; Conservative 155; Mismatches 389; Indels 205;
                                              945 ISCTETTLLSHQETWTTDAFHLARHGVVVRGSMYAS----LTSNIEVYG 989
                                                               Sequence 19, Application US/11018868 Publication No. US20060034871A1 GENERAL INFORMATION:
APPLICANT: Chiron Corporation
                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT ORGANISM: Chlamydia trachomatis
                                                                                                                                                                                                                                                                                                                                                                                                                              US-11-018-868-19
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63 GELTLKNL-----DNSIAALPLSCFGNLLGSFTVLGRGHSLTFENIRTSTNGAALSNSA- 116
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                : | | :|: | :|: | :|: | 30 HIFSLKFSQTYTKLNERYAKNNV--SSKNYSCQGEMLFSLQEGFLLTKLVGLYSYGDHNC 787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   827 RASYGFGNQHMKTSYTFAEESDVRWDNNCLAGEIGAGLPIVITPSKLYLNELRPFVQAEF 886
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561 GNSPYESTD-----LTHALSSOPMLSISEASDNOLOSENIDFSGLNVPHYGWQGL
                                                                                                   WKLAW--------DPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGS-
                                                                                                                                                                                                       611 WIWGWAKTODPEPASSATITDPOKANRFHRILLLIWLPAGYVPSPKHRSPLIANTLWGNM
                                                                                                                                                                                                                                                                                                          716 ILDIRSAHSAIQASVDGRSYCRGLWVSGVSNFFYHDRDALGQGYRYISGGYSLG---ANS
                                                                                                                                                                                                                                                                                                                                                                                    945 ISGTETTLLSHQETWTTDAFHLARHGVVVRGSMYAS----LTSNIEVYG 989
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11.7%; Score 615; DB 11; Length 10
Best Local Similarity 24.2%; Pred. No. 6.1e-36;
Matches 280; Conservative 163; Mismatches 402; Indels
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APPLICANT: Verlant, Unicent Georges Christian Louis
TITLE OF INVENTION: Vaccine Composition
FILE REFERENCE: B45261
CURRENT APPLICATION NUMBER: US/11/103,957
CURRENT FILING DATE: 2005-04-12
FRIOR FILING DATE: 2005-04-03
FRIOR FILING DATE: 2004-02-03
FRIOR FILING DATE: 2002-02-08
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Publication No. US20050281847A1
GENERAL INFORMATION:
APPLICANT: Berthet, Francois-Xavier Jacques
APPLICANT: Lobet, Yves
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                                                                                                                                                                                                   336 KEPSLVADDSVVPSNNTAEKGGGAIYAPTIDISTNGGSILFERNRAAEGGAICVSEASSG 395
TTNKGSQTPT-----TTSTPSNGT1YSKTDLLLLNNEKFSFYSNLVSGDGGAIDAK 195
                                            SLTVQGISKLCVFQENTAQADGGACQVVTSFSAMANEAPIAFVANVAGVRGGGIAAVQDG 255
                                                                                          256 QQGVSSSTSTEDPVVSFSRNTAVEPDGNVARVGGGIYSYGNVAFLNN-GKTLFLNNVA-S 313
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         710 ALRIPINGLKEHYVSRDVGFVASLHALGDYILNYTQDDRD----GFLARYGGFQATAASH 765
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        675 AW------DPNTANNGPYTLKATWTKTG----YNPGPBRVASLVPNSLWGSIL 717
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                                                                                                                                      PVYIAAKQPTSGQASNTSNNYGDGGAIFCK-NGAQAGSNNSGSVSFD----GEG----
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               993 YEYRDASRGYGLSAGSR 1009
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; Sequence 22, Application US/11018868 ; Publication No. US20060034871A1

RESULT 8 US-11-018-868-22

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APPLICANT: Chiron Corporation
APPLICANT: Chiron Corporation
APPLICANT: Grandi, Guido
APPLICANT: Ratti, Guilio
APPLICANT: Bonci, Alessandro
APPLICANT: Pinco, Oretta
APPLICANT: Finco, Oretta
TITLE OF INVENTION: Immunogenic Compositions for Chlamydia trachomatis
FILE REPERENCE: 002441.00099 (PP23152.001)
CURRENT APPLICATION NUMBER: 108/11/018,868
NUMBER OF SEQ ID NOS: 186
SOFTWARE: Patentin Version 3.2
SEQ ID NO 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 1016;
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                                                                                                                                                                                                                                                                                                                                                                                                                                              11.7%; Score 615; DB 11; 24.2%; Pred. No. 6.1e-36;
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US-11-018-868-22
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Qy 183 NLVSGDGGAIDAKSLTVQGISKLCVFQENTA Db 553 KKGGRPLSSGYSGGGAILGREVAILH-NAAVVFEQNRL Qy 225 SFSAMANBAPIAFVANVAGVRGGGIAAVQDGQCGV Db 612 STSIVGNSS-VRFGNNYAMGGGVSGGALLS		1 X 1	DD 775 SISSEBLAKRRECAGAIFAKRVRIVDNQEÅVVFSNNN QY 362GAVVFFSSNVAAGKGGAIYAKG DD 835 IPEVLISGNAGDVVFSGNSSKADEHLPHTGGAAICTQN	404 895	Qy 463 AGHQILFNDPIEMANGNNQPAQSSKLLKINDGEGYT	OY 521 IVLREKAKLSVNSLSQ-TGGSLYMEAGSTWDFV-TPQF	DD 1062 AHSLMIAKNAQTTVPMVDIHTISVDLASFSSSQC Qy 615 PIPFEDLDDTAYDRYDWLGSNQKINVLKLQLGTKPF : : : : : : : : : : : DD	1176	Qy 718 - DIRSAHSAIQASVDGRSYCRGIMVSGVSNFFYHDRDY :	DD 1289 MEDFVLGVSGAAFLGRAMDSQKFDAEVSRKGVVGS QY 830 YGFGNQHMKTSYTFAEESDVRWDNNCLAGEIGAGLI	DD 1338 YSLGETQNDMKTRYGVLGESSASWTSRGVLADALVBYI QY 886 FSYADHESFTEEGDQARAFKSGHLIANLSVPVGVKFDR	DD 1598 YASMKFPGFIEGGKEARSFEDASLINIIIFLGGRANELE QY 944 TISGTETTLLSHQETWTTDAFHLARHGVVVR 	Oy 998 ASRCYGLSAGSRVRF 1012 : : : Db 1517 SKLGYRANTGLRLIF 1531
675 AWDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGSIL	Db 710 ALRIFFINGLKEHYVSRDVGFVASLHALGDYILNYTQDDRDGFLARYGGFQATAASH 765 Qy 773 YPGSSMFGLAFTEVFGRSKDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDA 824	825 FIRASYGFGNQHMKTSYTFABESDVRWDNNCLAGEIGAGLPIVITPSKLYLN- :	Qy 877 -ELRPPYQAEFSYADHESFTEEDQARAFKSGHLINLSYPYGYKFDRCSSTHPNKYS 932	Db 937 LANGYRPDIWRVTPHCNMEIIANGVKTPIQGSPLARHAFFLEVHDTLYIHHFGR 990 Qy 993 YEYRDASRGYGLSAGSR 1009 CL 993 YEYRDASRGYGLSAGSR 1009 CL 993 YEYRDASRGYGLSAGSR 1009	6 F.1115	US-11-103-957-15 Sequence 15, Application US/11103957 Fublication No. US20050281847A1 GENERAL HOP NO. US20050281847A1 APPLICANT: Berthet, Francois-Xavier Jacques APPLICANT: Lobet, Yes	APPLICANT: Verlant, Vincent Georges Christian Louis TITLE OF INVENTION: Vaccine Composition FILE REFERENCE: B45261 CURRENT APPLICATION VMBER: US/11/103,957 CURRENT FILING DATE: 2005-04-12	PRIOR APPLICATION NUMBER: US/10/467,534 PRIOR FILING DATE: 2004-02-03 PRIOR APPLICATION NUMBER: PCT/EP02/01356 PRIOR PILING DATE: 2002-02-03 PRIOR APPLICATION NUMBER: GB 0103169.9	PRIOR FILING DATE: 2001-02-08 NUMBER OF SEQ ID NOS: 108 SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 15 LENGTH: 1531	Chlamydia trachomatis	Query Match 11.3%; Score 597.5; DB 11; Length 1531; Best Local Similarity 24.1%; Pred. No. 2e-34; Matches 293; Conservative 153; Mismatches 474; Indels 295; Gaps 54; Qy 17 SCCSLNGGGYAARIMVPQGI-YDGRTITVSFPYTVIGDPSGTTVPSAGELTLKNL 70	393	DD 448 DISKNIGALSFSKILCTISDLOGMER UG-GGALFGERISLSBARGOULT-T-T-T-T-T-T-T-T-T-T-T-T-T-T-T-T-T-T-

QOEGTVEAPQVI -- VPGGSYVRSG 1115 : |:|:|: EASAEISNLSVSDLQIHVVTPEIE 1175 : | | | : | | : ENLVAIDGYKGAYGGASAGVDIQL 1288 | :| :||| |LAFIKGQFSEVNSLGISYAWEAYR 1457 ||| | | : | : | : | | YTGSIRFLEAESKVPQCIHVQQGS 1001 | | | | : :: | TPVQQGHAISKPEAEIESSSEPEG 1061 PPANAPSDLTLGN-----E 662 DALG--QGYRYISGGYSLGAN--- 771 SVYLSTQQALCGSYLFGDAFIRAS 829 LPIVITPSK--LYLNELRPFVQAE 885 RC--SSTHPNKYSFMAAYICDAYR 943 RGSMYASLTSNIEVYGHĢRYEYRD 997 YTGDIVFANGSSTLYQNVTIEQGR 520 OPPOOPPAAN----OLITLSNLHL 574 ------PAVIGSTTAGSVTISG 614 QNLTISQNTGNVLFYNNVACSGGA 894 GVTVSSQAISM-GSGGKITTLRAK 462 ----GSDAIYFAGKESHITALNAT 943 KKLSVA-NCGPVQFLRNIANDGGA 403 ---LVSG--DGGAIDAKSLTVQGISKLCVFQENTAQAD------GGACQVVT 224 ILOCSEERATLLGCCGGGAVHGMD 611 WSSSTSTEDPVVSFSRNTAVEFD 281 309 NTJ------ETN 309 SGAISCLRGDVVISGNKGRVEFKD 714 336 ---- GD---- 336 **EQSFITAANQALFASEDGDLSPES 774** N----SGSV----SFDGE 361 | :||: |FSDIYGGAIFTGSLREEDKLDGQ 834

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||:|| ||:|| ||:|| ||:|| ||:|| ||176 EDTYGHMGDWSRA----KIQDG--TLVISWNPTGYRLDPQKAGALVFNALWEBGAVLSAL 1229
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---PAVIGSTTAGSVTISG
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APPLICANT: Lobet, Yess
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APPLICANT: Lobet, Yess
TITLE OF INVENTION: Varcine Composition
FILE REPRENCE: 184521
FILE REPRENCE: 2005-04-12
CURRENT PILING DATE: 2005-04-12
FRIOR PELICATION NUMBER: US/10/467,534
FRIOR FILING DATE: 2004-02-08
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SLSSLLANNAVTNPPTNPPAQDSH-
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US-11-103-957-47
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                 Sequence 18, Application US/11018868
Publication No. US20060034871A1
| GENERAL INFORMATION |
| APPLICANT: Chiron Corporation |
| APPLICANT: Grandi, Guido |
| APPLICANT: Grandi, Guido |
| APPLICANT: Ratti, Guilo |
| APPLICANT: Rotti, Guilo |
| APPLICANT: Finco, Oretta |
| TITLE OF INVENTION: Immunogenic Compositions for Chlamydia trachomatis |
| FILE REPERBURE: 002441.00099 (PP23152.001) |
| CURRENT APPLICATION NUMBER: US/11/018,868 |
| CURRENT FILIG DATE: 2004-12-22 |
| NUMBER OF SEQ ID NOS: 186 |
| SOFTMARE: Patentin version 3.2
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11.3%; Score 597.5; DB 11; Length 1531;
Best Local Similarity 24.1%; Pred. No. 2e-34;
Matches 293; Conservative 153; Mismatches 474; Indels 295; Gaps
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ORGANISM: Chlamydia trachomatis
US-11-018-868-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 18
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAIFCKNGAQAGSNNSGSVSF-----DGEGVVFFSSNVAAGKGGAIYAKKLSVANCGP 390
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                                                                                     APPLICANT: Chiron Corporation
APPLICANT: Grandi, Guido
APPLICANT: Grandi, Guido
APPLICANT: Grandi, Guido
APPLICANT: Ratti, Guildo
APPLICANT: Bonci, Alessandro
APPLICANT: Finco, Oretta
TITLE OF INVENTION: Immunogenic Compositions for Chlamydia trachomatis
FILE REPERBUCE: 002441.00099 (PPP23152.001)
CURRENT APPLICATION NUMBER: US/11/018,868
CURRENT FILING DATE: 2004-12-22
NUMBER OF SEQ ID NOS: 186
SOFTWARE: Patentin version 3.2
SEQ ID NO 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
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10.5%; Score 551; DB 11; Length 975;
Best Local Similarity 24.9%; Pred. No. 2.4e-31;
Matches 279; Conservative 148; Mismatches 405; Indels 290;
            US-11-018-868-15; Sequence 15, Application US/11018868; Publication No. US20060034871A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                          ; ORGANISM: Chlamydia trachomatis
US-11-018-868-15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ITPSKLYLNELRPFVQAEFSYADHE-----SFTEEGDQARAFKSGHLLNLSVPVGVKF 920
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          254 SAVHGGAIYN-----KNGLVEFLGN-AGP--LAFKENTIANGGAIYTSNFKANQTS 303
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                                                                                                      NNEKFSFYSNLVSGDGGAIDAKSLTVQGISK-----LCVFQENTAQADGGACQVV 223
                                                                                                                                                                                                                                          TSFSAMANEAPIAFVANVAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVBFDGN 283
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TVFSAGELTLK--NLDNSIAALPLSCFGNLLGSFTVLGRGH--SLTFENIRTSTNGAALS
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                                                    284 VARVGGGIYSYGNVAFLANNGKTLFLANNVASPVYIAAKQPT---SGQASNTSN---NYGDG
                                                                             254 SAVHGGAIYN------KNGLVEFLGN-AGP--LAFKENTTIANGGAIYTSNFKANQQTS
                                                                                                                                                                                                    391 VQFLRNIAND--GGAIYL-GESGELSLSADYGDIIFDGN--LKRTAKENAADVNGVTVSS
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; Publication No. US20050281847A1
; GENERAL INPORMATION:
; APPLICANT: Lobet, Yves
; APPLICANT: Lobet, Yves
; APPLICANT: Poolman, Jan
; APPLICANT: Poolman, Jan
; APPLICANT: Poolman, Jan
; APPLICANT: Poolman, Jan
; PRESERENCE: B42561
; FILE REPRERENCE: B42561
; CURRENT REPLICATION NUMBER: US/11/103,957
; CURRENT FILING DATE: 2005-04-12
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Publication No. US20060034871A1
GENERAL INFORMATION
APPLICANT: Chiron Corporation
APPLICANT: Grandi, Guido
APPLICANT: Ratti, Guildo
APPLICANT: Ratti, Guildo
APPLICANT: Fatoc, Oretta
TITLE OF INVENTION: Immunogenic Compositions for Chlamydia trachomatis
FILE REFERENCE: 002441.00099 (PP23152.001)
CURRENT APPLICATION NUMBER: US/11/018,868
CURRENT FILING DATE: 2004-12-22
NUMBER OF SEQ ID NOS: 186
SOFTWARE: Patentin version 3.2
SEQ ID NO 50
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             DLTLGNEMPKYGYQGSWKLAWDPNTANNGPY-TLKATWTKTG-YNPGPERVASLVPNSLW
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10.5%; Score 551; DB 11; Length 975;
Best Local Similarity 24.9%; Pred. No. 2.4e-31;
Matches 279; Conservative 148; Mismatches 405; Indels 290;
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                                                                                     GSILDIRSA-----HSAIQASVDGRSYCRGLWVSGV-----
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US-11-018-868-50
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955 EMBLAYQPTLYWKRPLLATLLIQNNGSWVTTNTFLAKHSFYGRGS-HSLKFSHLKLFANY 1013
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                                                                                                                                                                                                            840 HPMFDRIALIGAAACNYGTHNWRSFYGTKKSSKGKFHSTTL----GASLRCELRDSMPLR 895
                                                                                                                                                                                                                                                                     INELRPFVQAEPSYADHESFTEEGDQARAF--KSGHLLMLSVPVGVKFDRCSSTHPN-KY 931
                                                                                                                                                                                                                                                                                                                                                            SFMAAYICDAYRTISGTETTLLSHQETWTTDAFHLARHGVVVRGSMYASLTSNIEVYGHG 991
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                                                                                                                                                                                                                                                                                                     742 SL------VHS-----GRNWIMGLRSLLPDNSWFALQGAATTLFTKQOKRLSYHG
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                                                                                               759 YRYISGGYSLGANSYFGSSMFGLAFTBVFGRSKDYVVCRSNHHACIGSVYLSTQQALCGS
             WVS---GVSNFFYHDRDALG-QG
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9.9%; Score 522.5; DB 11; Length 1034;
Best Local Similarity 23.6%; Pred. No. 2.9e-29;
Matches 274; Conservative 157; Mismatches 435; Indels 295; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Bonci, Alessandro
APPLICANT: Finco, Oretta
TITLE OF INVENTION: Immunogenic Compositions for Chlamydia trachomatis
FILE REPERENCE: 002441.00099 (PP23152.001)
CURRENT RAPPLICATION NUMBER: US/11/018,868
CURRENT FILING DATE: 2004-12-22
NUMBER OF SEQ ID NOS: 186
                  SLWGSILDIRSAHSAIQASVDGRSYCRGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                       RYEYRDASRGYGLSAGSRVRF 1012
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 20, Application US/11018668; Publication No. US20060034871A1; GENERAL INFORMATION: APPLICANT: Chiron Corporation; APPLICANT: Grandi, Guido; APPLICANT: Ratti, Guillo
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ORGANISM: Chlamydia trachomatis
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SEQ ID NO 20
LENGTH: 1034
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                                                                                                                                                                                                                                                                                                          DB 11; Length 1034;
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PRIOR APPLICATION NUMBER: US/10/467,534
PRIOR PILING DATE: 2004-02-03
PRIOR PILING DATE: 2004-02-03
PRIOR PILING DATE: 2002-02-08
PRIOR PILING DATE: 2002-02-08
PRIOR PILING DATE: 2001-02-08
NUMBER OF SEQ ID NOS: 108
SOFTWARE: PastSEQ for Windows Version 4.0
SEQ ID NO 11
LENGTH: 1034
                                                                                                                                                                                                                                              ORGANISM: Chlamydia trachomatis
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397 IANDGGAIYLGE--SGELSLSADYGDIIF-----DGNLKRTAKENAADVNGVTVSSQ 446
                                                                                                                            SAAMGAARNLSKPRSAINYIHTGTGDIVFNNNVVFTLDGNL--LGKRKLFHINNNEITPY 405
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                                            GGAIFCKNGAQAGSNNSGSVSFDGEGVVFFSSNVAAGKGGAIYAKKLSVANCGPVQFLRN 396
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                                                               T-GQTPSSTSSISTPMIIFNGRLSIVDENYESVYDSMDL--SRGKARQLILSIETTNDGQ
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US-11-103-957-45

18-11-103-957-45

Sequence 45, Application US/11103957

Publication No. US20050281847A1

GRARRAL INPORMATION:
APPLICANT: Lobet, Yves
APPLICANT: Lobet, Yves
APPLICANT: Perlant, Vincent Georges Christian Louis
ITILE OF INVENTION: Vaccine Composition
FILE SEFERRENCE: B45561

FILE REPRERENCE: B45561

CURRENT APPLICATION NUMBER: US/11/103,957

CURRENT FILING DATE: 2005-04-12
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PRIOR APPLICATION NUMBER: US/10/467,534
PRIOR FILING DATE: 2004-02-03
PRIOR PRILING DATE: 2004-02-03
PRIOR FILING DATE: 2002-02-08
PRIOR FILING DATE: 2002-02-08
PRIOR FILING DATE: 2001-02-08
NUMBER: PSEQ ID NOS: 108
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 45
LENGTH: 1751
                                                                                                                                                               TYPE: PRT
ORGANISM: Chlamydia trachomatis
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	DD 1200 TIVESELHENKSYIPCHAILANGTIVLKEKTELHVVSFEGKEGSKLIMKPGAVL 1254 QY 555 QPPQQPPAANQLITLSNLHLSLSSLLANNAVTNP	646 GTKPPANAPSDLTL-GNEMPKYGYQGSWKLAMDPNTANNGPYTLKATWTKTGXNP- 1369PTNTSDVQVYDLTLSGDLFPQKGYMGTWTLDSNPQTGKLQARWTPDTYRRW 700	Qy 745 SNFFYHDRDALGQCYRYISGGYSLGANSYFGSS-MFGLAFTEVFGRSKDYVVCRSNHHAC 803 1471 GTFLAQQCTPLSEEFSYYSRGTSVAIDAKPRQDFILGAAFSKAVGKTKAIKKMHNYFH 1528 Qy 804 IGSVYLSTQQALCGSYLFGDAFIRASYGFGNQHMKTSY-TFAEES 847		RESULT 18 US-11-103-957-21 Sequence 21, Application US/11103957 Sequence 21, Application US/11103957 Sequence 21, Application Wo. US20050281847A1 GENERAL INFORMATION: SAPPLICANT: Berthet, Francois-Xavier Jacques APPLICANT: Poolman, Jan APPLICANT: Poolman, Jan APPLICANT: Verlant, Vincent Georges Christian Louis TITLE OF INVENTION: Vaccine Composition FILE REFERENCE: B4261	CURRENT APPLICATION NUMBER: US/11/103,957 CURRENT FILING DATE: 2005-04-12 FRIOR APPLICATION NUMBER: US/10/467,534 PRIOR PILING DATE: 2004-02-03 PRIOR PILING DATE: 2005-02-08 PRIOR APPLICATION NUMBER: PCT/EP02/01356 PRIOR APPLICATION NUMBER: GB 0103169.9 PRIOR FILING DATE: 2001-02-08 NUMBER OF SEQ ID NOS: 108 SOFTWARE: PASTESEQ for Windows Version 4.0
QY 745 SNFFYHDRDALGQGYRYISGGYSLGANSYFGSS-MFGLAFTEVFGRSKDYVVCRSNHHAC 803 Db 1471 GTFLAQQGTPLSEEFSYYSRGTSVAIDAKPRQDFILGAAFSKOWGKTKAIKKOHNYFH 1528 Qy 804 IGSVYLSTQQALCGSYLFGDAFIRASYGFGNQHMKTSY-TFAEES 847 Db 1529 KGSEYSYQASVYGGKPLYFLLNKQHGWALPFLIQGVVSYGHIKHDTTLYPSIHERN 1585 Qy 848 DVRWDNCLAGEIGAGLPIVITPSKLYLNELRPFVQAEFSYADHESFTEEGDQARAFKSG 907 Qy 848 DVRWDNCLAGEIGAGLPIVITPSKLYLNELRPFVQAEFSYADHESFTEEGDQARAFKSG 907 Db 1586 KGDWEDLGWLADLRISMDLK-EPSKDSSKRITVYGELEYSSIRQKQFTEIDYDPRHFDDC 1644	Qy 908 HILMLSVPVGVKPDRCSSTHPNKYSFWAAYICDAYRTISGTETTLLSHQETWTTDA 963 Db 1645 AYRNLSLPVGCAVEGAIMNCNILMYNKLALAYMPSIYRNNPVCKYRVLSSNEAGQVIC 1702 Qy 964 FHLARHGVVVRGSMYASLTSNIGRYBHGRYBYRPRDASRGYGLSAGSRVRF 1012 Db 1703SCGARMIF 1751	RESULT 17 US-11-018-868-16 ; Sequence 16, Application US/11018868 ; Publication No. US20060034871A1 ; GENERAL INFORMATION: ; APPLICANT: Chiron Corporation ; APPLICANT: Ratti, Guiloo	APPLICANT: Bonci, Alessandro APPLICANT: Bonci, Alessandro APPLICANT: Finco, Oretta TITLE OP INVENTION: Immunogenic Compositions for Chlamydia trachomatis TITLE OP INVENTION: Immunogenic Compositions FILE REFERENCE: 002441.00099 (PP23152.001) CURRENT APPLICATION NUMBER: US/11/018,868 NUMBER OF SEQ ID NOS: 186 SOFTWARE: Patentin version 3.2 SQFTWARE: Patentin version 3.2 LENGTH: 1751	; TYPE: PRT ; ORGANISM: Chlamydia trachomatis ; ORGANISM: Chlamydia trachomatis ; ORGANISM: Chlamydia trachomatis ; ORGANISM: Chlamydia trachomatis ; ORGANISM: Chlamydia trachomatis Query Match ; Score 475.5; DB 11; Length 1751; Best Local Similarity 23.6%; Pred. No. 1.5e-25; Matches 269; Conservative 148; Mismatches 454; Indels 269; Gaps 51; Matches 269; Conservative 148; Mismatches 454; Indels 269; Gaps 51; Qy 35 GIYDGETLIVSFPYTIGDPGGTTVFSAGELTLENIDNSIAALPLSCFGNLGSFTVLGS 94		255 GQGCVSSSTSTEDPVVSFSRNTAVEFDGNVARVGGTYSYGNVAFLNN 256 GQGCVSSSTSTEDPVVSFSRNTAVEFDGNVARVGGTYSYGNVAFLNN 267 STATE

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US-11-018-868-17
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MTF 1770
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                                                                                   TYPE: PRT
ORGANISM: Chlamydia trachomatis
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SEQ ID NO 21
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Sequence 17, Application US/11018868

| Publication No. US20060034871A1
| GENERAL INFORMATION:
| APPLICANT: Chiron Corporation
| APPLICANT: Grandi, Guido
| APPLICANT: Bonci, Alessandro
| APPLICANT: Fanco, Oretta
| TILL OF INVENTION: Immunogenic Compositions for Chlamydia trachomatis
| FILE REFRENCE: 002441.00099 [PP23152.001]
| CURRENT APPLICANT: US/11/018,868
| CURRENT FILING DATE: 2004-12-22
| SUUTHMARE: PatentIn version 3.2
| SEQ ID NOS: 186
| SOFTWARE: PatentIn version 3.2
| LANGTH: 1770
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                                    1654 EYDDRYFDNCTYRNLAIPMGLAFEGELSGNDILMYNRFSVAYMLSIYRNSPTCKYQVLSS
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                                                                                                         GDQARAFKSGHLLNLSVPVGVKFD-RCSSTHPNKYS-FMAAYICDAYRTISGTETTLLSH
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1312 SANGSSSPAVAAAHTSRTRNPAAATATPTTTTPTATTTTSNQVILGGRIKLIDPNGTPPQ 1371
                                                                    .200 HSGSLVLKPNTELHVISFRQKEGSSLVMTPGSVLSNQT-----VADGALVINNMTID 1251
                                                                                                     1252 LSSVEKNGIAEGNIFTPPELRIIDTTTGGSGGTPSTDSESNQNSDDTEEQNNNDASNQGE 1311
                                                                                                                                                   RYDWLGSNOKINVLKLOLGTKPPANAPSDLTLGNEMPKYGYQGSWKLAWDPNTANNGPYT 687
                                                                                                                                                                                                                    YCRGLWVSGVSNFFYHDRDALGQGYRYISGGYSLGANSYFGSSMF-GLAFTEVFGRSKDY 793
                                                                                                                     ----STTAGSVTISGPIFFEDLDDTAYD 627
                                                                                                                                                                                    LKATWTKTGYNPGPERVASLVP-----NSLWGSILDIRSAHSAI-----QASVDGRS 734
                                                                                                                                                                                                   1426 ISVLWKFDSY-----ROWAYVPRDNHFYANSILGSOMIMYTVKOGLINDKWNLARFEEVS
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                        FNDPIEMA-NGNNQPAQSSKLLKINDGE-----GYTGDIVFAN----GSSTLYQNVTI
                                                      517 EQGRIVLREKAKLSVNSLSQ-TGGSLYMEAGSTWDFVTPQPPQQPPAANQLITLSNLHLS
                                                                                     LSSL----LANNAVTNPPT------NPPAQDSH-----LANNAVTNPPT-
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ORGANISM: Escherichia coli 0157:H7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         645 -LGTKPPANA----PSDLTLG----NEMPKYGY----QGSWKLAWDPNTANNGP-YTLKAT 691
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   344 NGAQAGSNNSGSVSFDGEGVVFFSSNVAAGKG------GAIYAKKLSVANCG 389
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                                                                                                                                                                                                                                                                                                                                          | | | : : | : | : | : | | GKLDNASPTEILSRNVVVNGKVSADBLNVVAGN-NYVNAAGQVTGSVSA-----TGSR 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SASTINLITINGTLDNTTGTVTSVGTISLNTNKNTIVNTRAGNISTMGDIYVNSGTIDNTN 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | : : | : | | | | : : | | : : | GKLAAAGMLAVDTNNATLINSGKGSSVGIEAGLVALKTGT----LNNSNGQIRGGYVGLE 404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            463 SSDSLGIIADTGVEIGANNINNNGGOI--ASNGNVSLSSYSTIDDYAGKILSNSKVIIKG 520
                                                                                                                                                                                                      D-----NSIAALPLSCFGNLLGSFTVLGRGHSLTFENIRTSTNGAALSNSAADGLFTI 123
                                                                                                                                                                                                                                                                                                               124 EGFKELSFSNCNSLLAVLPAATTNKGSQTPT----TTSTP-----SNGTI-- 164
                                                                                                                                                      70
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ------SSTSTEDPVVSFS----RNTAVEF-DGNVARVG-------
                                                                                                      12 MILAYSCCSLNGGGYAAEIMVPQG-IYDGETLTVSPPYTVIGDPSGTTVFSAGELTLKNL
                                                                                                                                                                                                                                       71 DKNGVVFNNSANESSTSLAGNIQGN-SNLTSGSAKVILNEVTSKNPS-----TI
                                                                                                                                                      21 MMLSFPVAS-----QAAGLVIKNGTVYNAN----GVPVVDINKPNGSGL-SHNIMDNLNV
                                                     Gaps
  4.5%; Score 237.5; DB 11; Length 1268; ilarity 20.8%; Pred. No. 1.4e-08; Conservative 155; Mismatches 421; Indels 401;
Length 1268,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DGGACQVVTSFSAMANEAP1AFVANVAGVRGGGIAAVQDGQQGVS
                                  Similarity
                                                        Matches 257;
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MS-11-052-554A-16

Sequence 16, Application US/11052554A

Sequence 16, Application US/11052554A

Publication No. US20050288866A1

GENERAL INFORMATION:

APPLICANT: Sachdeva, et al.,

TITLE OF INVENTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE

TITLE OF INVENTION: PROTEINS OF THERAPEUTIC FOTENTIAL

FILE REPERENCE: 30653/40359A

CURRENT PALICATION NUMBER: US 60/589,227

PRIOR APPLICATION NUMBER: US 60/589,227

PRIOR FILING DATE: 2004-02-06

PRIOR FILING DATE: 2004-02-06
                                                                                                                                                                                                                                                                1562 PEIHSFVVHKVNGKLSNSQSMLDGOTAPFISQPDRTAKTSYNI------GLSANIKS 1612
                                                                                                                                                                                                                                                                                                                                                                                               1195 -----SGTQAYT----LIQGGARFNGTLGAP----NFAVTGSN---- 1224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1225 ----IFVKYELIRDSNQD-YVLTRTNDVLNVVTTAVGNSAIANAPGVSQNISRCLESTN 1278
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1279 TAAYNNMIJAKDPSDVATFVGAIATDTSAAVTTVNLNDTQKTQDLLGNRL-GTLRYLSNA 1337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1453 TL-----NKVKSKSQRYFFESNGKMSKQIAAGNYDNMTFGGNLIFGYDYNAMPNVL---- 1503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VANCG----PVQFLRNIANDGGAIYLGESGEL-SLSADYGDIIFDGNLKRTAKENAADVN 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                          611 TISGPIF--FEDLDDTAYDRYDWLGSNQKINVLKLQLGTKPPANAP---SDLTLGNEMPK 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     775 GSSM-----FGLAFTEVFGRSKDYVVCRSNHHACIGSVYLS---TQQALCGSYLFGDAFI 826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     827 RASYGFGNQHMKTSYTFAEESDVR------WDNNCLAGEIGAGLPIVITPSKLYLNB 877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --LDIRSAHSAIQASVDGRSYCRGLWVSGVSNFFYHDRDALGQGYRYISGGYSLGANSYF 774
                                                                                                                                                                                                                             DIVFANGSSTLYQNVTIEQ-----GRIVLREKAKLSVNSLSQTGGSLYMEAGSTWD
                                                                                                             GVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMANGNNQPAQSSKLLKINDGEGYTG
                                                                                                                                                                                                                                                                                                                                          PVTPQPPQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDSHPAVIGSTTAGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  878 LRPFVQAEFSYADHESFTEEGDQA--RAFKSGHLLNLSVPVGVKFDRCSST-----H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PNKYSFMA----AYICDAYRTISGTETTLLSHQETWTTDAFHLARHGVVVVRGSMYASLTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          666 YGYQGSWKLAWDPNTANN--GPYTLKATWTKTGYN-PGPERVASLVPNSLWGSI----
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                                                                                                                                             984 NIEV-YGHGRYEYRDASRGYGLSAGS---RVRF 1012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1613 DAKMEYGIG-YDFNSASK-YTAHOGTLKVRVNF 1643
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SOFTWARE: Patentin version
SEQ ID NO 16
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TITLE OF INVENTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE
TITLE OF INVENTION: PROTEINS OF THERAPEUTIC POTENTIAL
FILE REFERENCE: 30853/40359A
CURRENT APPLICATION NUMBER: US/11/052,554A
CURRENT APPLICATION NUMBER: US 60/589,227
PRIOR APPLICATION NUMBER: UN 173/DEL/2004
PRIOR PILING DATE: 2004-07-20
PRIOR PILING DATE: 2004-02-06
RRIOR PILING DATE: 2004-02-06
RRIOR PILING DATE: 2004-03-06
PRIOR PILING DATE: 2004-03-06
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                                                                                                                                                                                                                                                                                                               1008 --GIVGKEGVTLSAQNVYNNNSSIIÄENGPLNLLSRGTLDNTRALLSSGADAIIRAAGTF 1065
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          193 DAKSLIVQGISKLCVFQENTAQA-----DGGACQVVTSFSAMAN-----EAPIAFVAN 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        912 IDSMINNGQIIGDKKNIIALSLGSD--NSITVNANTLYSGIRTTKNNQGTVTLSGGMPNN 969
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                                                                926 KGSLT-SETGDVTLTANIVDNAYGLIAGENVSVDAKSTIYNNTALIAANKKLVIN---- 979
                                                                                                                                          882 VQAEFSYADHESFTEEGDQARAFKSGHLLNLSVPVGVKFDRCSSTHPNKYSFMAAYICDA 941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             50 VIGDPSGTTVPSAGELTLKNLDNSIAALPLSCFGNLLGSFTVLGRGHSLTPENIRTS--- 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          107 ------NCNSLLAVL 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             738 VGSLHFR8GGTSIVSGTVGGQQGHKLNNLILDNGTTVKFLGDTTFNGGTKIEGKSILQIS 797
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           798 NNYTTDH-----VESADNTGTLEFVNTDPITVTLNKQGAYFGVLKQVIISGPGNIVFNE 851
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                          --IGAGLPIVITPSKLYLNELRPF 881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
4.4%; Score 232.5; DB 11; Length 1643;
Best Local Similarity 19.6%; Pred. No. 4.7e-08;
Matches 218; Conservative 161; Mismatches 437; Indels 297; Gaps
                                                                                                                                                                                                                                                          942 YRTISGTETTLLSHQETWTTDAFHLARHG---VVVRGSM----
                                                                                                                                                                                               980 AGGNLENRDGNNFLR-----NNGALFGITDNVG----
                                                                                                                                                                                                                                                                                                                                                                                                           978 ---YASLTS--NIEVY-----GHGRYEYRDAS 999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 172, Application US/11052554A Publication No. US20050288866Al GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Rickettsia prowazekii
                             838 KTSYTFARESDVRWDNN-
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US-11-052-554A-172
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            38
                                                                                                                                                                                                                                                           TSNNYGDGGAIFCKNGAQAGSNNSGSVSFDGEGVV---FFSSNVAAGKGGAIYAKKLSVA 386
                                                                                                                                                                                                                                                                                                                                                                                       -----GNVTVNQGSFAGTIE-----GA 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             635 NOKINVLKLOLGTKPPANAPSDLTLGNEMPKYGYQGSWKLAMDPNTANNGPYTLKATWTK 694
                                                                                                                                                                                                      FSRNTAVEFDGNVAR---VGGGIYSYGNVAFLNNGKTLFLNNVASPVYIAAKQPTSGQASN 329
                                                                                                                                                                                                                                                                                                                 NSATAPYLIDISVDDSYSQNGGVLVDENNSAAGYGDGPSSAAGGFMYLGLS-EVTFDIAD 304
                                                                                                                                                                                                                                                                                                                                                                      GDIIFDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQIL-----FNDP 472
                                                                                                                                                                                                                                                                                                                                                                                                                             473 IEMANGNNQPAQSSKLLKINDGE-----GYTGDIVPANGSSTLYQNVTIEQGRIVL 523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 524 REKAKLSVNSLSQT-----GGSLYMEAGSTWDFVTPQPPQQPPAANQLITLSNLHL 574
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                                                                                                                                                 TAQADGGACQVVTSFSAMANEAPIAFVANVAGVRGGGIAAVQDGQQGVSSSTSTEDPVVS 271
                                                                                                                                                                           ST------YSSGTNDTGANVAGGYGGAI-----YSSGTNDTGAI 153
                                                          695 TGYNPGPERVA----SLVPNSLWGSILDIRSAHSAIQASVDGRSYCRGLWVSGVSNFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    526 IGSQDVVD----LAGGNDM-----GO
                                                                                                                                                                                                                      || : |||||| | ||||| | | : |||||| | TSYSDGDGGAI-----DVTDNNSDSKHPSGYTIINNTAFTNNTAEGYGGAIY-----T
                                                                                           TTSTPSNGT1YSKTDLLLLLNNEKFSFYSNLVSGD---GGAIDAKSLTVQGISKLCVFQEN
            Gapa
                                                                                                                                                                                                                                                                                                                                                                                                                                                      349 MQIENGEVTLGRSNSLMNVGDTHCQDDPQDCYGLT----IGSIDKYQN----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels 342;
                                        102 NIRTSTINGAALSNSAADGLFTIEGFKELSFSNCNSLLAVLPAATTNKGS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PTLSPEN----ETGMTL-----PANNTVSGEYNNGGAIPAK--
Pred. No. 6.6e-08;
87; Mismatches 222;
              179; Conservative
Similarity
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RESULT 23
US-11-052-554A-2
is Sequence 2, Application US/11052554A
is Sequence 1. Application US/11052554A
is GENERAL INFORMATION:
i PUBLICANT: Sachdeva, et al.
i TITLE OF INVERTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE
i TITLE OF INVERTION: PROTEINS OF THERAPEUTIC POTENTIAL
i TITLE OF INVERTION: PROTEINS OF THERAPEUTIC POTENTIAL
i FILE REPRENCE: 30853/40359A
i CURRENT APPLICATION NUMBER: US/11/052,554A
i CURRENT PILING DATE: 2005-02-07
i PRIOR FILING DATE: 2004-07-20
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1216 NSNWNLTNDVKPNPDPNPNPNPNPKPDPKPDPKPDPTPRPTPTPVPEKRITPSTAA 1275
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4.1%; Score 218; DB 11;
Best Local Similarity 20.0%; Pred. No. 4.9e-07;
Matches 218; Conservative 138; Mismatches 413;
PRIOR APPLICATION NUMBER: IN 173/DEL/2004 PRIOR FILING DATE: 2004-02-06 NUMBER OF SEQ ID NOS: 763 SOFTWARE: Patentin version 3.3 SEQ ID NO 2
                                                                                                                    , ORGANISM: Bacherichia coli 0157:H7
US-11-052-554A-2
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-NSLWGSILDIRS----AHSAIQASVDG
                                                                -----RSYCRGLWVSGVSNFFYHDRDALGQGYRYISGGYSLGA-NSYFGSSMFGLAF
                                                                                                                                 784 TEVFGRSKDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDAFIRASYGFGNQHMKTSYTF
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4.1%; Score 218; DB 11; Length 3132;
Best Local Similarity 20.6%; Pred, No. 1.3e-06;
Matches 228; Conservative 144; Mismatches 432; Indels 304;
                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Abad, Mark S. et al.
TITLE OF INVENTION: Genes and Uses for Plant Improvement
FILE REFERENCE: 38-21 (53450) B EP
CURRENT APPLICATION NUMBER: US/11/087,099
CURRENT FILING DATE: 2005-03-22
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, Publication No. US20060041961A1
, GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT

ORGANISM: Magnetococcus sp. MC-1
US-11-087-099-1245
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1436 ---TDGNWN 1441
703 --RVASLVP----
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US-11-087-099-1245
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US-11-052-554A-90

Sequence 90, Application US/11052554A

Sequence 90, Application No. US2005028866A1

Publication No. US2005028866A1

GENERAL INPORMATION:
TITLE OF INVENTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE
TITLE OF INVENTION: COMPUTATION OF THERAPEUTIC POTENTIAL
TITLE OF INVENTION: UNMERR: US/11/052,554A

CURRENT APPLICATION NUMBER: US/11/052,554A

CURRENT PILING DATE: 2005-02-07

PRIOR APPLICATION NUMBER: US/15/DEL/2004

PRIOR PILING DATE: 2004-07-20

PRIOR FILING DATE: 2004-07-20

PRIOR FILING DATE: 2004-02-06

NUMBER OF SEQ ID NOS: 763

SEQ ID NO 90

SEQ ID NO 90
                                                                                                                                                                                                                                                                                                                                                                                                              1646
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                                                                                                                                  1513 STGSTDIVNAGAMAITKASLEGGSSSFIAESLTILDMAGDTATI--ANNTSLTLÖTTT--
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                                                                   PNDPIEMANGNNQPAQSSKL------LKINDGEGYTGDIVFANGSSTLYQNVTIE
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4.1%; Score 218; DB 11; Length 3194;
Best Local Similarity 19.8%; Pred. No. 1.4e-06;
Matches 229; Conservative 126; Mismatches 403; Indels 396;
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ORGANISM: Helicobacter pylori J99
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NUMBER OF SEQ ID NOS: 763
SOFTWARE: Patentin version 3.3
 --FTQSNGQKFVPE 1258
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               | | : : : | | : : | | GGSITFTNSNINHYKLALANSVIFNNSTIGSMPNGNANTIGNAYIL-NANNITFNNL-- 332
                                                                             333 TPNGGWFVFNRSDAHVNPQGTTTINNPTSPFVNMTGKVTINPNAIFNIQNYTPTIGNAYT 392
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---NLLGSFTVLGRGHSLTFENIRT
                                                         STNGAALSNSAADGLFTIEGFKELS----FSNCNSLLAVLPAATTNKGSQTPT----
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Sequence 281, Application US/11052554A

Sequence 281, Application US/11052554A

Publication No. US2005028866A1

Sequence 281, Application Sequence 281

TUDIACATION NO. US2005028866A1

APPLICANT: Sachdeva, et al.

APPLICANTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE

TITLE OF INVENTION: PROTEINS OF THERAPEUTIC POTENTIAL

FILE REFERENCE: 30653/40359A

CURRENT APPLICATION NUMBER: US 60/589,227

PRIOR APPLICATION NUMBER: US 60/589,227

PRIOR APPLICATION NUMBER: IN 173/DEL/2004

PRIOR FILING DATE: 2004-02-06

PRIOR FILING DATE: 2004-02-06
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Best Local Similarity 21.8%; Pred. No. 6.5e-06;
Matches 182; Conservative 116; Mismatches 360;
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884 AEFSYADHESFTEE 897
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1270 SNSSFRGYVGQTQSVFKFNAVNAISFTNSSNLSSGLYQMQAKSVLFDNSNLSVSVGT--- 1326
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    1213 LLTNATLYNRAAGTQSSSMNFVSNSANIQAQNSYFIDDTAQNKGNPNFSFN---ALNLDF 1269
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                                                                                                                                       456 ITTLRAKA------GHQIL-----FNDPIEMANGNNQPAQSSKLLKIND---
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TITLE OF INVENTION: HETEROLOGOUS EXPRESSION OF NEISSERIAL PROTEINS
TITLE OF INVENTION: HETEROLOGOUS EXPRESSION OF NEISSERIAL PROTEINS
THE REFERENCE: 233002099501
CURRENT APPLICATION NUMBER: US/11/067,260
CURRENT FILING DATE: 2005-02-25
PRIOR PLILING DATE: 2002-08-28
PRIOR PLILING DATE: 2001-08-28
PRIOR FILING DATE: 2001-02-28
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3.7%; Score 194; DB 11; Length 1474;
Best Local Similarity 20.1%; Pred. No. 2.4e-05;
Matches 234; Conservative 139; Mismatches 438; Indels 352;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1659 ISQTYNAQGNPISALHVYNKGYNFSNIKALGQ 1690
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                                               GDIIPDGNLKRTA---KENAADVNGVTVSSQ---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: deletion G983-ORF46.1
US-11-067-260-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; Sequence 18, Application US/11067260; Publication No. US20060051840A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQ ID NOS: 121
SOFTWARE: Patentin version 3.2
SEQ ID NO 18
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US-11-067-260-18
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TITLE OF INVENTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE
TITLE OF INVENTION: PROTEINS OF THERAPEUTIC POTENTIAL
FILE REPRENCE: 30653/40359A
CURRENT APPLICATION NUMBER: US/11/052,554A
CURRENT FILING DATE: 2005-02-07
PRIOR APPLICATION NUMBER: US 60/589,227
PRIOR APPLICATION NUMBER: 1N 173/DEL/2004
PRIOR PILING DATE: 2004-07-20
PRIOR FILING DATE: 2004-07-206
                                                                                                                                                                                          : | : | : | : | 3914 VSNAIGNTGSSNHTITVDLSAPAMGINIDSLQADTGLSASDFITSVSPVVVNGSLTAALA 3973
3854 GSSLVISGTTTAPVGQTLTLTLTURGKTYTTVQTGGSWSYTLGSADVTALADGNAYVINAS 3913
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                                                                638 INVLKLQLGTKPPANAPSDLTLGNEMPKYGYQ--GSWKL----AWDPNTANNGPYTLKAT 691
                                                                                                                                                           56 GTTVFSAGELTLKNLDNSIAALPLSCFGNLL------GSFTVLGRGHSLTFENIRT 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           193 -DAKSLTVQGISKLC----VFQEN-----TAQADGGACQVVTSFSAMA 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    231 NEAPLAFVANVAGVRGGGLAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEFDGNVARVGGG 290
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larity 20.0%; Pred. No. 1.1e-05;
Conservative 130; Mismatches 341;
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SEQ ID NO 91
LENGTH: 2902
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Best Local Similarity
Matches 186; Conserv
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                     209 QENTAQADGGACQVVTSF-----SAMANRAPIAFVANVAGVRGGGIAAVQDGQGGVS 260
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                                                                    261 SSTSTEDPVVSFSRNTAVEPDGNVARVGGGIYSYGNVAF----LUNNGKTLFLNNVASPV
                                                                                    316 YIAAKQPT--SGOASNISNNYGDGGAIFCKNGAQAGSNNS----GSVSFDGEGVVFFSSN
                                                                                                                                  575 TRLGKLLKVDGTAIIGGKLYMSARGKGAGYLNSTGRRVPFLSAAKIGQDYSFFTNIETDG
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                                                                                                                                                                    370 VAAGK-----GGAIYAKK------LSVANCG-PVQFLRNIANDG
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                                            421 LLTTAQ-DIGAVGVDSKFGWGLLDAGKAMNGPASFPFGDFTADTKG-
RTNPIQIAGTSFSAPIVTGTAALLL--QKYPWMSN·
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RESULT 29 US-11-052-554A-171

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Sequence 171, Application US/11052554A
Publication No. US20050288866A1
GENERAL INFORMATION:
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GENERAL INFORMATION:
TITLE OF INVENTION:
TITLE OF INVENTION:
CURRENT APPLICATION NUMBER:
US/11/052,554A
CURRENT FILING DATE:
2005-02-07
PRIOR APPLICATION NUMBER:
US 60/589,227
PRIOR PLING DATE:
2004-07-20
PRIOR PLING DATE:
2004-07-20
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PRIOR APPLICATION NUMBER:
IN 173/DEL/2004
PRIOR PLING DATE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     894 STINIQGDNTKAVTIAND---IFVDNIHFTNGGIL-----QLGGNLTTHN----IDFGA 940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----GVVFFSSNVA 371
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 941 NGGTLBFNGN------NTYNLNAIIVNGQNGILNAFTNLKASDDTIGTVKIINIGQIG 992
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.7%; Score 193.5; I
Best Local Similarity 19.6%; Pred. No. 5.1e-
Matches 191; Conservative 109; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 171
LENGTH: 2340
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Sequence 92, Application US/11052554A
Publication No. US2050288866A1
GENERAL INFORMATION. US2050288866A1
GENERAL INFORMATION. US205028886A1
TITLE OF INVENTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE
TITLE OF INVENTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE
FILE REPERENCE: 30853/40359A
CURRENT APPLICATION NUMBER: US/11/052,554A
CURRENT FILING DATE: 2004-07-20
PRIOR FILING DATE: 2004-07-20
PRIOR APPLICATION NUMBER: IN 173/DEL/2004
PRIOR PILING DATE: 2004-02-06
NUMBER OF SEQ ID NOS: 763
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1290 FGQ---YGIGRFDIGISAGAGFSS-----GSLSDGIRGKIRRRVLHYGIQARYRAGFGG 1340
                                                                                                                                                                                                    1093 Q-SLDALIAAGRNATEKAESVAEPARQA--GGENAGIMQAE----EEKKRVQADKDTAL 1144
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                                                                                                                 462 KAGHQILFNDPIRMANGNNOPAQSSKLLKINDGEGYTGDIVFANGSSTLYQNVTIEQGR-
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                                       382 DTALHLKOSEWTLPSGTELGNINLDNATITLNSAYRHDAAGAQTGSAADAP-----
                                                                                                                                                                                                                                                           521 --IVLREKAKLSVNS-----LSQTGGSLYMEAGSTWDFVTPQPPQQPPAANQLITLSNL
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3.7%; Score 193; DB 11; Length 2399;
Best Local Similarity 19.4%; Pred. No. 5.7e-05;
Matches 171; Conservative 108; Mismatches 296; Indels 306;
                                                                                   423 FDGNLKRTAKENAADV------NGVTVSSQAISMGS--
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             188 -----DGGAID----AKSLTVQGISKLCVPQENTAQADGGACQVVTSFSAMA 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     559 SKMEGIPQGEIVWDNDWIDRTFKAENFHIQG--GQAVVSRNVSKNVBKD-------WHLS 708
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         324 SGQAS-NTSNNYGDGGAIFCKNGAQAGSNNS---GSVSFDGEGVVFFSSN-----VAAGK 374
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                                       ----NNVTATDISGKNANNGTLKLN
                                                                                   N-LHLSLSSLLANNAVTNPPTNPPAQDSHPAVIGSTTAGS--VTISGPIFFEDLDDTAYD
                                                                                                                                                                   RYDWLGSNOKINVLKLQLGTKPPANAPSDLTLGNEMPKYGYQGSWKLAMDPNTANNGPYT
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APPLICANT: FOUTAIN MARIA Rita
APPLICANT: PONTANA MARIA RIta
APPLICANT: PONTANA MARIA RITA
APPLICANT: PONTANI VEGA
APPLICANT: MASIGNANI VEGA
APPLICANT: MONACI Elisabetta
TITLE OF INVENTION: GONOCOCCAL PROTEINS AND NUCLEIC ACIDS
FILE REFERENCE:
CURRENT PILING DATE: 2003-08-11
PRIOR PILING DATE: 2001-02-12
NUMBER: OF SEQ ID NOS: 9218
SOFTWARE: SEGMIN99, version 1.04
SEQ ID NO 1088
LENGTH: 1468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 3.7%; Score 193; DB 9; Length 146 Best Local Similarity 20.2%; Pred. No. 2.8e-05; Matches 195; Conservative 129; Mismatches 367; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1088, Application US/10467657
Publication No. US20050260581A1
GENERAL INFORMATION:
                     1399 PSN-TLKSGNIVISDGATMQVN-
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ORGANISM: Neisseria gonorrhoeae
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US-10-467-657-1088
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US-10-467-657-1088
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TNP-PINPPAQDSHPAVIGSTIA---GSVTISGPIF------FEDLDDTAYDRYD 630
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                                                                                                                                                                                                                                                               ---SCFG-NLLGSFTVLGRGHSLTFENIRTSTNGAALSNSA--ADGLFTIEGFKELSFSN
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                                                                                                                                                                                                                                         30 IMVPQG-----IYDGETLIVSFPYTVIGDPSGTTVFSAGELTLKNLDNSIAALPL----
                                                                                                                                                                                                         Indels 320;
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                                                                                                                                                                       Query Match 3.6%; Score 190; DB 11; Best Local Similarity 20.7%; Pred. No. 2.5e-05; Matches 208; Conservative 127; Mismatches 348;
                                                                                                                     ; ORGANISM: Shigella flexneri 2a str. 2457T
US-11-052-554A-179
PRIOR APPLICATION NUMBER: IN 173/DEL/2004
PRIOR FILING DATE: 2004-02-06
NUMBER OF SEQ ID NOS: 763
SOFTWARE: PatentIn version 3.3
SEQ ID NO 179
LENGTH: 955
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TITLE OF INVENTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE
TITLE OF INVENTION: COMPUTATIONS OF THERAPEUTIC FOTENTIAL
FILE OF INVENTION: 30853/40359A
CURRENT PILL REPERENCE: 30853/40359A
CURRENT PILLNG DATE: 2005-02-07
PRIOR APPLICATION NUMBER: US 60/589,227
PRIOR PILLNG DATE: 2004-07-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |: :|| || || LSIINQSYRYDTWITDAKINYGYDFMFKDKSVIFKPQVGLSYYYIGLSGLRGIMDDFIYN 2284
                                                                                  --FSKYQGALIFASNGVSNI--NITTLNATNGLSL-NAGLNNVSVQKGBICINLANC--- 1736
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; OTHER INFORMATION: deletion G983-961
US-11-067-260-22
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ORGANISM: Artificial
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US-11-067-260-22
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FILE REPERRICE: 2230209501
FILE REPERRICE: 2230209501
CURRENT APPLICATION NUMBER: US/11/067,260
CURRENT FILING DATE: 2005-02-25
FRIOR APPLICATION NUMBER: 10/220,480
FRIOR FILING DATE: 2002-08-28
FRIOR FILING DATE: 2001-02-28
FRIOR FILING DATE: 2001-02-28
NUMBER FO SEQ ID NOS: 121
SOFTWARE: PACENTIN VERSION 3.2
SEQ ID NO 24
LENGTH: 1392
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3.6%; Score 190; DB 11; Length 1392;
Best Local Similarity 21.0%; Pred. No. 4.3e-05;
Matches 211; Conservative 120; Mismatches 378; Indels 296;
                                                                                                                                                                     -QHMKTSYTFAEESDVRWDN
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US-11-067-260-24
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Publication No. US20060051840A1
GENERAL INFORMATION:
                                                                                                                              GDAFIRASYGF-GN----
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US-11-067-260-24
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997 TGARNMPHTRLVAG---LGADVEFGNGWNGLARYSYAG-SKQY----GNHSGRVGVGY-- 1046
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                                        -FVTPQPPQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDSHPA 600
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505 NGSSTLYQNVTIE----QGRIVLREKAKLSVNSLSQTGGSLYMEA-----GSTWD----
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3.6%; Score 190; DB 11; Length 1447;
Best Local Similarity 21.0%; Pred. No. 4.5e-05;
Matches 211; Conservative 120; Mismatches 378; Indels 296; Gaps
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CURRENT APPLICATION NUMBER: U5/11/067,260
CURRENT FILING DATE: 2005-02-25
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PRIOR APPLICATION NUMBER: 10/20,480
PRIOR FILING DATE: 2002-08-28
PRIOR FILING DATE: 2001-02-28
PRIOR FILING DATE: 2011-02-28
NUMBER OF SEQ ID NOS: 121
SOFTWARE: Patentin version 3.2
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TYPE: PRT
ORGANISM: Escherichia coli 0157:H7
             SOFTWARE: PatentIn version 3.3 SEQ ID NO 283
                                                                                                                              Best Local Similarity
 ID NOS:
                                                                                    US-11-052-554A-283
NUMBER OF SEQ
                                           LENGTH: 1461
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Publication No. US20050288866A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Sachdeva, et al.
TITLE OF INVENTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE
TITLE OF INVENTION: PROTEINS OF THERAPEUTIC POTENTIAL
FILE REPERENCE: 30853/40359A
CURRENT APPLICATION NUMBER: US/11/052,554A
CURRENT FILING DATE: 2005-02-07
PRIOR APPLICATION NUMBER: US 60/589,227
PRIOR APPLICATION NUMBER: IN 173/DEL/2004
PRIOR PILING DATE: 2004-07-20
PRIOR PILING DATE: 2004-07-20
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                QENTAQADGGACQVVTSF----SAMANEAPIAFVANVAGVRGGGIAAVQDGQQGVS 260
                                                                                                                                316 YIAAKOPT--SGQASNTSNNYGDGGAIFCKNGAQAGSNNS----GSVSFDGEGVVFFSSN 369
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                                  421 LLTTAQ-DIGAVGVDSKFGWGLLDAGKAMNGPASPPFGDFTADTKG------
                                                                        SSTSTEDPVVSFSRNTAVEPDGNVARVGGGIYSYGNVAF----LINNGKTLFLMNVASPV
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953 DIGNSATASHNVLVDSALPGVTINPVATDDIINAAEAGVAQTISGO-----VTGA--- 1002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PVVSFSRNTAVEFDGNVARVGGGIYSYGNVAFLANNGKTLFLANNVASPVYIAAKQPTSGQA 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            617 OSFITIVOADGSWSLIVPAAAMGNLPDGAVAITASVTDLSGNTGNISRTITVDSQAPALS
                                                                                                                                                                                                                                                                                                              502 SGAS----PGDIVIVKLGIHVLTGIVLADGSWNVALDPAVIRTLDRGANTIFVIVTDAAG
                                                                                                                                20 SINGGGYA-ABIMVPQGIYDGETL-----TVSFPYTVIGDPS-----GTTVF
                                                                                                                                                                                                                                                                           61 SAGELTLYNLDNSIAALPLSCFG------NLGSFTVLGRGHSLTFENIRTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    470 NDPIEMAN-----GNNQP-----AQSSKLLKIN-DGEGYTGDI------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SKTDLLLLINNEKFSFYSNLVSGD---GGAIDAKSLTVQGISKLCVFQENTAQADG----
                                                                   Gарв
                                                            Matches 240; Conservative 161; Mismatches 415; Indels 373;
Length 1461;
3.6%; Score 189.5; DB 11;
20.2%; Pred. No. 5e-05;
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TITLE OF INVENTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE TITLE OF INVENTION: PROTEINS OF THERAPEUTIC POTENTIAL PULLS OF INVENTION: PROTEINS OF THERAPEUTIC POTENTIAL PULLS OF INVENTION: PROSEST, 403594, 403594 PILSE REPERENCE: 30653/403594 PILSE REPERENCE: 2005-02-07 PRIOR APPLICATION NUMBER: US 60/589, 227 PRIOR PILLING DATE: 2004-07-20 PRIOR PILLING DATE: 2004-07-20 PRIOR PILLING DATE: 2004-07-20 PRIOR PILLING DATE: 2004-07-20 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING DATE: 2004-07-30 PRIOR PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING PILLING 
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-----GAVVQNNGSRPATTVIANGHNLVIESKTN----VNNAKGS--ANLSA--GGR 424
                                                                                                                   251
                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                     305
                                                                                                                                                                                                                                                                                                                   355 SVSFDGEGVVFFSSNVAAGKGG-AIYAKKLSVANCGPVQFLR-NIANDGGAIYLGESGEL 412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           642
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  874 ---ANRISAHTDLSIKTGGKLLLSAKGGNAGAPSAQVSSLRAKGNIRLVTGETDLRGSKI 930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                :: | | | : | | : | | : | | : | NL-------HIQAAKGNIQLRNTKLNAAKALETTALQGNIVSD-GLHAVSADGHV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           425 TTINDATIQAGSSVYSSTKGDTELGENTRIIAENVTVLSNGS----IGSAAVIEAKDTAH
                                                                                                                                                                                                                                                                     252 VQDGQ-----QGVSSSTSTEDPVVSFSRNTAVEFDGNVARVGGGIYSYGNVAFLNNGKT
                                                                                                                                                                                                                                                                                                                                                                                                                306 LFLN--NVASPVYIAAKQPTSGQASNTSNNYGDGGAIFCKNGAQAG-----SNNSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LNLNVDKDLSAASIHLKSDNAAHITGTSKTLTASKDM----GVEAGLLNVTNTNLRTNSG
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                                                                                                                   192 IDAKSLTVQGISKLCVFQENTAQADGGACQVVTSFSAMANEAPIAFVANVAGVRGGGIAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     643 SLLAN-GNADFTGHNTLTAK---ADVNAGSVGKGRLKADNTNITSSSGDITLVAGNGIQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----KLLKINDGEGY------TGDIVF-----ANG-----SSTLYQNVTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               517 RQGRIVLREKAKL----SVN-----SLSQTGGSLYMEAGSTWDFVTPQPPQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 560 PPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDSH-----PAVIGST----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 189.5; DB 11; Length 2015; Pred. No. 7.9e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                413 SLSADYGDIIFDGNLKRTAKENAADVNG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          , ORGANISM: Neisseria meningitidis 22491
US-11-052-554A-374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; Sequence 374, Application US/11052554A; Publication No. US20050288866A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3.6%;
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Best Local Similarity
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US-11-052-554A-374
                                  380 N-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: (A) NAME : I.N.S.E.R.M TITLE OF INVENTION: DNA, specific proteins and peptides of the Neisseria meningitidis species bacteria, method for obtaining them and their biological application.
                                                                                                                                                                                        1082
                                                                                                                                                                                                                                                                                                            1031
                                                                                                                                                                                                                                                                 903
                                                                                                       808 YLSTQQALCGSYLFGDAFIRASYGFGNQHMKTSYTFAEESDVRWDNN-----CLAGE- 859
                                                                                                                                                                                                                                                                                                                                                                                                            904 FKSGHLINLSV----PVGVKFDRCSSTHPNKYSFMAAYICDAYRTISGTETTLLSHQETW 959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | : | | : : | | : : | | 310 GRIENSGRIATTADGTEASPTYLSIETTEKGAAGTFISNGGRIESKGLLVIETGEDISLR 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GNLLGS----FTVLGRGHSLTFENIRTSTNGAA---LSNSA---ADGLFTIEGFKELSFS 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        133 NCNSLLAVLPAATTNKGSQTPTTT-STPSNGTIYSKTDLLLLNNEKFSFYSNLVSGDGGA 191
   | : : | | . .----TATVGSNLTWSV-----DV
                                                                                                                                                                                PAADIQAL-GN---GDLTVNAS--VTNQNGNTG---SGTRDITIDANLPGLRVDTVAGDD
                                                                                                                                                                                                                                                             ----IGAGLPIVITPSKLYLNELRPP------VQABFSYADHESFTEBGDQARA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23 GGGYAAEIMVPQGIYDGETLTVSFPYTVIGDPSGTTVFSAGELTLKNLDNSIAALPLSCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TDDVINAAEKGADL---TLGGTTTNVEPGQTVTVTFGGKNYTAGVASDG 1225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTDAFHLARHGVVVRGSMYASLTSNIE------VYGHGRYEYRDASRG 1001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 11; Length 1981;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPAG-TVNIAVSGESSAG---NSVSITHPVTVDLTPAAI--TINTIA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Version #1.30 (OEB)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
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21.5%; Pred. No. 7.7e-05;
Mismatches 293;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative 110; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/09/214,759
FILING DATE: 22-APR-1999
ATTORNEY/AGENT INPORMATION:
NAME: SMITHKLINE BEECHAM
INPORMATION FOR SEQ ID NO: 38:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/11/045,208
PILING DATE: 31-Jan-2005
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: Great-Britain
ZIP: TW 89 EP
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
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1 SRQUENCE DESCRIPTION: SEQ ID NO: 38:
US-11-045-208-38
| | | : | | : | | --EDGDTV----TITLGGNTY
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STREET: New Horizons Court
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Publication No. US20060063167A1
GENERAL INFORMATION:
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STRANDEDNESS: single
TOPOLOGY: linear
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Matches 170; Conserv
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US-11-045-208-38
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                          PatentIn version 3.2
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NUMBER OF SE
SOFTWARE: Par
SEQ ID NO 20
LENGTH: 1313
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                                                                                                 284 GGMYADSI------EAAKQLIVTSS
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0.00 0.00	RESULT 40 US-11-022-554A-284 i Sequence 284, Application US/11052554A i Sequence 284, Application US/11052554A i Publication No. US2005028866A1 i GENERAL INCORPARATION: ITILE OF INVENTION: COMPUTATIONAL METHOD FOR IDENTIFYING ADHESIN AND ADHESIN-LIKE ITILE OF INVENTION: PROTEINS OF THERAPEUTIC POTENTIAL ITILE OF INVENTION: PROTEINS OF THERAPEUTIC POTENTIAL CURRENT FILING DATE: 2004-02-07 PRIOR APPLICATION NUMBER: US 60/589,227 PRIOR PRIOR PLING DATE: 2004-02-06 i PRIOR PLING DATE: 2004-02-06 i PRIOR PLING DATE: 2004-02-06 i NUMBER OF SEQ ID NOS: 763 i SOFTWARE: Patentin version 3.3 i SEQ ID NO 284 CURRENT BEACHTICHIA AND ADMINISTRATIONAL METHOD FOR INCORPANISTRATION ADMI
QY 811 TQQALCGSVLFQDAFIRASYGFGWQHWKTSYTFAESEDVRWDNNCLAGEIGAGLF1VTP 870 1044	Query Match

	134 CMSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTDL	596 onsiletpnmygtsgtgtltinsgtlnveggevylgvpepavgtlnigaahgeaaada 655		656 GRITNATKVBFGSGBGVFVFNHTNNSDAGYQVDMLITGDDKDGKVIHDAGHTVFNAGNTY 715	193 DAKSLTVQGISKLCVPQENTAQADG GACQVVTSFSAMANRAPIAFVANVAG 243	716 SGKTLVNDGLLTIASHTADGVTGMGSSEVTIASPGTLDILASTNSAGDYTLT 767	244VRGGGIAAVQDGQGVSSSTSTEDPVVSFSRNTAVERDG 282	768 NALKGDGLMRVQLSSSDKMFGFTHATGTEFAGVAQLKDSTFTLERDNTAAL 818	283NVARVGGGIYSYGNVAFLNNGKTLFLNNVASPVYIAAKQPTSGQAS 328	819 THAMLQSDIENTTSVNVGEQSIGGLA-MNGGTLIFDTDIPAATLAEGYISVDTLVVGASD 877	329 NTSNNYGDGGAIPCKNGAQAGSNNSGSVSFDGEGVVFFSSNVAAGKG 375	878 YTWKGRNYQVNGTGDVLIGVPKPWNDPMANNPLTTLNLLEHDDNHVGVQLVKAQTVIGSG 937	376 GAIYAKKISVANCGPVQPLRNIANDGGAIYLGESGBLSLSADYGDII 422	938 GSLTLRDLQGDEVEADKTLHIAQNGTVVAEGDYGFRLTTAPGDGLY 983	423 FDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMANG 478	984 VNYGLKALNIHGGQKLTLÄEHGGAYGATADMSÄKIGGEGDLAINTVRQVSLSNG 1037	479 NNQPAQSSKLLKINDGEGYTGDIVPANGSSTLYQNVTIEGGRIULR 524	1038 QND-YQGATYVQMGTLRTDADGALGNTRELNISNAAİVDLNGSTQTVETFTGQMGSTVLF 1096	525 BKAKLSVNSLSQTGGSLYMEA-GSTWDFVTPQPPQQPPANQLITLS 570		S71 NIHLSLSSLLANNAVTNPPTNPPAQDSHPAVIGSTTAGSVTISGPIFFEDLDDTAXDRXD 630	1157 RGNIANDGLLTLKXVTGELRNSISGKGIVSATARTDVELDGDNSR 1201	631 WLGSNQKINVLKLQLGTKPPANAPSDLTLGNEMPRYGYGGGWKLAWDFNTANNGPYTL 688	1202 FVGCPNIDIGSALSV-NEGKNIGDASVINNGLLIST 1237	689 KATWIKIGYNPGPERVASLVPNSLWGSILDIRSAHSAIQASVD 731	1238 ERSWAMTHSISGSGDLTKLGTGİLTLNNDSSAYĞGTTD 1275	
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ALIGNMENTS

AAY16735 standard; protein; 1012 AA

RESULT 1 AAY16735 AAY16735;

bacterial infection; conjunctivitis; lymphografuloma venereum; LGV; cervicitis; epididymitis; endometritis; pelvic inflammatory disease; PID; salpingitis; tubal occlusion; infertility; cervical cancer; New Chlamydia protein useful for treating conjunctivitis, urethritis and 'n Chlamydia; high molecular weight protein; HMW protein; urethritis; C. trachomatis LGV L2 HMW protein. arteriosclerosis, atherosclerosis. 98WO-US020737. 97US-00942596. (ANTE-) ANTEX BIOLOGICS INC. (first entry) Chlamydia trachomatis. Jackson JW, Pace JL; WPI; 1999-287659/24. N-PSDB; AAX60539 cervical cancer. WO9917741-A1. 21-JUL-1999 01-OCT-1998; 02-OCT-1997; 15-APR-1999.

The invention relates to an isolated Chlamydia species high molecular weight (HMM) protein having an apparent mol. wt. of 105-115 kD as determined by 5DS-PAGE. The HMM proteins and nucleic acid molecules can be used for preventing, treating or ameliorating a disorder related to Chlamydia e.g. bacterial infection, conjunctivitis, urethritis, lymphogranuloma venereum (LGV), cervicitis, epididymitis, endometritis, lymphogranuloma venereum (FGV), salpingitis, tubal occlusion, cervical cancer, infertility, arteriosclarosis and atherosclarosis. The products can also be used for detection and diagnosis. The present sequence

Claim 4; Fig 3; 141pp; English.

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The present invention relates to a new gram-negative bacterial bleb presenting on its surface the PorB outer membrane protein from Chlamydia trachomatis, or a protective antigen from C. pneumoniae. The invention is useful for preventing C. trachomatis or C. pneumoniae infection in a host. The present nucleic acid sequence represents a Chlamydia trachomatis gene of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel gram-negative bacterial bleb presenting on its surface ForB outer membrane protein from Chlamydia trachomatis or protective antigen from Chlamydia pneumoniae, useful for preventing Chlamydia infection.
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Chlamydia trachomatis infection; Chlamydia pneumoniae infection;
protective antigen; antibacterial; vaccine; gene; ds.
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                                                                                                  standard; protein; 1013
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N-PSDB; ABS67342.
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llarity 100.0%; Pred. No. 0;
Conservative 0; Mismatches
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a C. trachomatis HMW
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Matches 1012;
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                                                                                                                                                                                                                                                                                                                                                    GLAFTEVFGRSKDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDAFIRASYGFGNQHMKT
                                                                                                          SLYMRAGSTWDFVTPQPPQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDSHP
                                                                                                                                                                   AVIGSTTAGSVTISGPIFFEDLDDTAYDRYDWLGSNOKINVLKLOLGTKPPANAPSDLTL
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                               GEGVVFPSSNVAAGKGGAIYAKKLSVANCGPVQFLRNIANDGGAIYLGESGELSLSADYG
                                                                DII PDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMANGN
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gene therapy; antibacterial
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12-DEC-2001; 2001GB-00029732. 06-AUG-2002; 2002GB-00018233.

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The invention relates to a novel immunogenic composition comprising a protein or nucleic acid, and an adjuvant, where the protein or nucleic acid, and an adjuvant, where the protein or nucleic acid comprises any of 131 fully defined amino acid or nucleotide acid comprises any of 131 fully defined amino acid or nucleotide deducts of sequences given in the specification, or has 50% or greater sequence identity to it, or their fragments. The protein and/or nucleic acid of the immunogenic composition is useful in the manufacture of a medicament carchomatis. The infection is treated or prevented by the medicament electron is reacted or prevented by the medicament cliciting an immune response which is specific to a C. trachomatis composition can be used in creating a vaccine. The immunogenic composition can be used for the diagnosis of C. trachomatis infection. The nucleic acids of the immunogenic compositions can be used for the diagnosis of compositions and activity. This sequence represents one of the 131 C. trachomatis proteins with immunogenic properties of the
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                                                                                                                       New immunogenic composition having a protein or encoding nucleic acid, useful for diagnosing, preventing and/or treating Chlamydia trachomatis
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97.0%; Pred. No. 0;
iive 18; Mismatches
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Best Local Similarity 97.0'
Watches 983; Conservative
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protein or mucleic acid, and an adjuvant, where the protein or nucleic acid, and an adjuvant, where the protein or nucleic acid comprises any of 131 fully defined amino acid or nucleotide acid comprises any of 131 fully defined amino acid or nucleotide sequences given in the specification, or has 50% or greater sequence (compressed in the manufacture of a medicament composition is useful in the manufacture of a medicament for the immunogenit composition is useful in the manufacture of a medicament correction is treated or prevented by the medicament correction is treated or prevented by the medicament correction is treated or prevented by the medicament correction is treated or prevented by the medicament correction is treated or prevented by the medicament correction is treated or prevented by the medicament compositions and also be used for the diagnosis of C. Irachomatis infection. The nucleic acids of the immunogenic compositions and also be used for the immunogenic compositions can be used for the immunogenic compositions can be used to treat disorders by gene therapy. The immunogenic compositions have antibacterial activity. This sequence represents one of the invention.
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                                            SLYMEAGSTWDFVTPQPPQQPPAANQLITLSNIHLSLSSLLANNAVTNPPTNPPAQDSHP
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gene therapy; antibacterial.
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06-AUG-2002; 2002GB-00018233.
14-AUG-2002; 2002GB-00018924.
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                                                                                                            GLAFTEVFGRSKDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDAFIRASYGFGNQHMKT
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06-AUG-2002; 2002GB-00018233.
14-AUG-2002; 2002GB-00018924.
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the 131 C. trachomatis proteins with immunogenic properties of
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ive 18; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to a novel immunogenic composition comprising a protein or nucleic acid, and an adjuvant, where the protein or nucleic acid, and an adjuvant, where the protein or nucleic acid cacid comprises any of 131 fully defined amino acid or nucleotide sequences given in the specification, or has 50% or greater sequence identity to it, or their fragments. The protein and/or nucleic acid of the immunogenic composition is useful in the manufacture of a medicament or prevention of infection due to Chlamydia and trachomatis. The infection is tracted or prevented by the medicament electring an immune response which is specific to a C. trachomatis celementary body, or for neurralising C. trachomatis elementary bodies, hence the immunogenic composition can be used in creating a vaccine. The immunogenic compositions can also be used for the diagnosis of C. trachomatis infection. The nucleic acids of the immunogenic compositions can be used to treat disorders by gene therapy. The immunogenic compositions compositions acivity. This sequence represents one of the lim C. trachomatis proteins with immunogenic properties of the
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                  TTDAFHLARHGVIVRGSMYASLTSNIEVYGHGRYEYRDTGRGYGLSAGSKVRF 1013
                                                                                                                                                                                                                                                          immunogenic; infection; Chlamydia trachomatis; immune; vaccine;
gene therapy; antibacterial.
TTDAPHLARHGVVVRGSMYASLTSNI EVYGHQRYEYRDASRGYGLSAGSRVRF
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; Pred. No. 0;
18; Mismatches
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                                                                                                                      ADD43708 standard; protein; 1013 AA
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06-AUG-2002; 2002GB-00018233.
14-AUG-2002; 2002GB-00018924.
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97.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GLAFTEVFGRSKDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDAFIRASYGFGNQHMKT
361 GEGVVFFSSNVAAGKGGAIYAKTLSVANCGPVQFLGNIANDGGAIYLGESGELSLSADYG
                                                                                                           DIFDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDFIEMANGN
                                                                                                                                                                         NOPAQSSKLLKINDGEGYTGDIVFANGSSTLYQNVTIEQGRIVLREKAKLSVNSLSQTGG
                                               GEGVVPFSSNVAAGKGGAIYAKKLSVANCGPVQFLRNIANDGGAIYLGESGELSLSADYG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        lmmunogenic; infection; Chlamydia trachomatis; immune; vaccine;
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06-AUG-2002; 2002GB-00018233.
14-AUG-2002; 2002GB-00018924.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTDLLLLLINNEKFSF 180
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                                                                                                                                                                                                                                                                                                                                                        New immunogenic composition having a protein or encoding nucleic acid, useful for diagnosing, preventing and/or treating Chlamydia trachomatis infection.
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             immunogenic; infection; Chlamydia trachomatis; immune; vaccine;
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Pred. No. 0;
18; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 6; SEQ ID NO 9; 164pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97.4%;
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06-AUG-2002; 2002GB-00018233.
14-AUG-2002; 2002GB-00018924.
                                                                                                                                                     12-DEC-2002; 2002WO-IB005761
                          gene therapy; antibacterial
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                                                           Chlamydia trachomatis.
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Best Local Similarity
                                                                                                                                                                                                                                                                                                               2003-532882/50
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                                                                                                                                                                                                                                                  (CHIR-) CHIRON SPA.
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New immunogenic composition having a protein or encoding nucleic acid, useful for diagnosing, preventing and/or treating Chlamydia trachomatis
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                               SLYMEAGSTLDFVTFQPFQQPPAANQLITLSNIHLSLSSLLANNAVINPPTNPFAQDSHP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QARAFRSGHLANLSVPVGVKFDRCSSTHPNKYSFMGAYICDAYRTISGTQTTLLSHQETW
    SLYMEAGSTWDFVTPQPPQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDSHP
                                                                                                                   601 AIIGSTTAGSVTISGPIFFEDLDDTAYDRYDWLGSNQKIDVLKLOLGTQPSANAPSDLTL
                                                                                                                                                                                                                           GNEMPKYGYGSWKLAWDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGSILDI
                                                                                                                                                                                                                                                                                                           721 RSAHSAIQASVDGRSYCRGLWVSGVSNFPYHDRDALGQGYRYISGGYSLGANSYFGSSMF
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                                                                                         600 AVIGSTTAGSVTISGPIFFEDLDDTAYDRYDWLGSNQKINVLKLQLGTKPPANAPSDLTL
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06-AUG-2002; 2002GB-00018233.
14-AUG-2002; 2002GB-00018924.
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N-PSDB; ADD43789.
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                                                                                                                                                          immunogenic composition having a protein or encoding nucleic acid, inl for diagnosing, preventing and/or treating Chlamydia trachomatis
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97.4%; Score 5131.5;
Best Local Similarity 97.0%; Pred. No. 0;
Matches 983; Conservative 18; Mismatches
                                                                                                                                                                                                                                                      Claim 6, SEQ ID NO 81, 164pp, English.
                                                                                      WPI; 2003-532882/50.
N-PSDB; ADD43787.
                                             Ratti G;
(CHIR-) CHIRON SPA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1013 AA;
                                         Grandi G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                invention
                                                                                                                                                                                                        infection
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acid comprises any of 131 fully defined amino acid or nucleotide sequences given in the specification, or has 50% or greater sequence identity to it, or their fragments. The protein and/or nucleic acid of the immunogenic composition is useful in the manufacture of a medicament for the treatment or prevention of infection due to Chlamydia trachomatis. The infection is treated or prevented by the medicament eliciting an immune response which is specific to a C. trachomatis elementary body, or for neutralising C. trachomatis elementary body or for neutralising C. trachomatis elementary bodies, hence the immunogenic compositions can be used for the diagnosts of C. trachomatis infection. The nucleic acids of the immunogenic compositions can also be used for the diagnosts of C. trachomatis infection. The nucleic acids of the immunogenic compositions can be used to treat disporders by gene therapy. The immunogenic compositions can be used to treat disporders by gene therapy. The immunogenic compositions that an activity. This sequence represents one of the 131 C. trachomatis proteins with immunogenic properties of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    invention
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Sequence 1013 AA;

ï 719 779 240 300 300 359 360 419 420 479 480 539 599 600 629 99 720 780 240 SAGELTLKNLDNSIAALPLSCFGNLLGSFTVLGRGHSLTFENIRTSTNGAALSNSAADGL 120 180 FTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTDLLLLNNEKFSF 180 9 9 YSNLVSGDGGAIDAKSLTVQGISKLCVFQENTAQADGGACQVVTSFSAMANRAPIAFVAN VAGVRGGGIAAVQDGQGVSSSTSTEDPVVSPSRNTAVEFDGNVARVGGGIYSYGNVAFL NNGKTLFLINNVASPVYIAAKQPTSGQASNTSNNYGDGGAI PCKNGAQ-AGSNNSGSVSFD GEGVVFFSSNVAAGKGGAIYAKKLSVANCGPVQFLRNIANDGGAIYLGESGELSLSADYG DIIPDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMANGN SLYMEAGSTWDFVTPQPPQQPPAANQLITLSNIHLSLSSLLANNAVTNPPTNPPAQDSHP SLYMEAGSTLDFVTPQPPQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDSHP RSAHSAI QASVDGRSYCRGLWVSGVSNPFYHDRDALGQGYRYISGGYSLGANSYPGSSMP 241 VAGYRGGGIAAVQDGQQGYSSSTSTEDPVVSFSRNTAVEFDGNVARVGGGIYSYGNVAFL DIIPDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMANGN NOPAQSSKILKINDGEGYTGDIVFANGSSTLYQNVTIEQGRIVLREKAKLSVNSLSQTGG AVIGSTTAGSVTISGPIFFEDLDDTAYDRYDWLGSNQKINVLKLQLGTKPPANAPSDLTL GNEMPKYGYQGSWKLAWDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGS1LDI 1 MQTSFHKFFLSMILAYSCCSLSGGGYAAEIMIPQGIYDGBTLTVSFPYTVIGDFSGTTVF 1 MOTSFHKFFLSMILAYSCCSLNGGGYAARIMVPQGIYDGETLTVSFPYTVIGDPSGTTVF Gaps Length 1013; 1; 18; Mismatches 11; Indels 7; B 97.4%; Score 5131.5; 97.0%; Pred. No. 0; Best Local Similarity 97.0 Matches 983; Conservative 360 661 721 301 420 480 481 540 541 909 601 99 720 301 361 121 61 241 61 121 181 Query Match g 셤 è 셤 ሯ 셤 ò 셤 8 셤 8 셤 ò 요 ઠે ò 셤 ò g δ 셤 δ 셤 ò ઢ

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The invention relates to a novel immunogenic composition comprising a protein or nucleic acid, and an adjuvant, where the protein or nucleic acid comprises any of 131 fully defined amino acid or nucleotide acid comprises any of 131 fully defined amino acid or nucleotide sequences given in the specification, or has 50% or greater sequence (dentity to it, or their fragments. The protein and/or nucleic acid of identity to it, or their fragments. The protein and/or nucleic acid of composition is useful in the manufacture of a medicament of trachomatis. The infection is treated or prevented by the medicament carbomates are infection is trached or prevented by the medicament colliciting an immunogenic composition is prevented by the diagnosis of consent the immunogenic compositions can also be used for the diagnosis of compositions can also be used for the diagnosis of compositions have antibacterial activity. This sequence represents one of the 131 C. trachomatis proteins with immunogenic properties of the invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New immunogenic composition having a protein or encoding nucleic acid, useful for diagnosing, preventing and/or treating Chlamydia trachomatis
                                                                                                                                   SYTFAERSDVRWDNNCLAGRIGAGLPIVITPSKLYLNELRPFVQAEFSYADHESFTEEGD
                                                                             QARAFKSGHLLNLSVPVGVKFDRCSSTHPNKYSFMAAYICDAYRTISGTETTLLSHQETW
GLAPTEVFGRSKDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDAFIRASYGFGNQHMKT
                                                                                                                                                                                               TTDAFHLARHGVVVVRGSMYASLTSNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
                                                                                                                                                                                                                                                                                                                                                                                                          immunogenic; infection; Chlamydia trachomatis; immune; vaccine; gene therapy; antibacterial.
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                                                                                                                                                                                                                                                                                                                                                                                  Chlamydia trachomatis immunogenic protein, SEQ ID No
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                                                                                                                                                                                                                                                                                           ADD43710 standard; protein; 1013
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06-AUG-2002; 2002GB-00018233.
14-AUG-2002; 2002GB-00018924.
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The invention relates to a novel immunogenic composition comprising a protein or nucleic acid, and an adjuvant, where the protein or nucleic acid, and an adjuvant, where the protein or nucleic acid comprises any of 131 fully defined amino acid or nucleotide acid or nucleotide sequences given in the specification, or has 50% or greater sequence identity to it, or their fragments. The protein and/or nucleic acid of the immunogenic composition is useful in the manufacture of a medicament of or the treatment or prevention of infection due to Chlamydia trachomatis. The infection is treated or prevented by the medicament electring an immune response which is specific to a C. trachomatis clamparary bodies, hence the immunogenic compositions can also be used for the diagnosis of C. trachomatis infection. The nucleic acids of the immunogenic compositions can also be used for the immunogenic compositions can be used to treat immunogenic compositions can be used to treat disorders by gene therapy. The immunogenic compositions compositions are antibacterial activity. This sequence represents one of the 131 C. trachomatis proteins with immunogenic properties of the
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  TTDAFHLARHGVIVRGSMYASLTSNIEVYGHGRYEYRDTSRGYGLSAGSKVRF 1013
                                                                                                                                                                                                                                                    immunogenic; infection; Chlamydia trachomatis; immune; vaccine;
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97.0%; Pred. No. 0;
ive 18; Mismatches
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                                                                                                ADD43706 standard, protein; 1013
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14-AUG-2002; 2002GB-00018924.
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                                                                                                                                                                                                                                                                        gene therapy, antibacterial
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                                                                                                                                    1 MQTSPHKPFLSMILAYSCCSLNGGGYAARIMVPQGIYDGETLTVSPPYTVIGDPSGTTVP
                                                                                                                                                            MQTSFHKFFLSMILAYSCCSLSGGGYAAEIMIPQGIYDGETLITVSFPYTVIGDPSGTTVF
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                                                          Length 1013;
                                                                                              Indels
                                                          DB 7;
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                                                      97.4%; Score 5131.5; 97.0%; Pred. No. 0;
                                                                                            18; Mismatches
                                                                      Local Similarity 97.0% tes 983; Conservative
                Sequence 1013 AA;
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                                                           241 VAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEFDGNVARVGGGIXSYGNVAFL
                                                                              NNGKTLFLNNVASPVYIAAKQPTSGQASNTSNNYGDGGAIFCKNGAQ-AGSNNSGSVSFD
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                          YSNIVSGDGGAIDAKSITVQGISKICVPQENTAQADGGACQVVTSFSAMANEAPIAFVAN
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An immunogenic composition for preventing or treating Chlamydia trachomatis infections comprises a combination of C. trachomatis antigens, such as PepA, LcrE, ArtJ, DnaK, CT398, OmpH-like, L7/L12, OmcA,

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(CHIR) CHIRON CORP

WPI; 2005-075653/08.

26-JUN-2003; 2003GB-00015020. 25-AUG-2003; 2003US-0497649P. 02-FBB-2004; 2004GB-00002236. 01-JUN-2004; 2004US-0576375P.

25-JUN-2004; 2004WO-US020491

Chlamydia trachomatis

WO2005002619-A2 13-JAN-2005. Example 1; SEQ ID NO 21; 110pp; English

or Atos.

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This invention relates to novel immunogenic compositions that comprise a combination of Chlamydia trachomatis (C. trachomatis) antigens. Specifically, it refers to a first antigen group consisting of Peph, LCTE, ArtJ. DnaK and CT398 and a second antigen group consisting of Peph, LCTE, ArtJ. DnaK, CT398, OmpH-like, LJ/L12, OmCA, AtoS, CT547, Enclase, HtrA and MurG. The present invention describes the development of a vaccine and antibodies that recognize the immunogenic composition in a order to provide a method of neutralize the immunogenic composition in a mammal through raising an immune response. Accordingly, the pharmaceutical compositions derived thereof exhibit antibacterial activity and the group of antigenic DNA sequences can also be used in antigen of the invention.
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97.0%; Pred. No. 0;
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Matches 983; Conservative
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immunogenicity; antigen; vaccine; chlamydia trachomatis infection; antibacterial; gene therapy.

C_trachomatis polymorphic membrane protein (PmpG) Seq 21

(first entry)

522252822**2**

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protein; 1013

standard;

ADW29027 ADW29027;

RESULT 12 ADW29027

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181 YSNLVSGDGGAIDAKSLTVQGISKLCVFQENTAQADGGACQVVTSFSAMANEAPIAFIAN
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                                               its encoding nucleic acid, usefu preventing chlamydial infection.
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            N-PSDB; ARA19079
                                    New immunogenic
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GRGVVPPSSNVAAGKGGAIYAKKLSVANCGPVQFLGNIANDGGAIYLGESGELSLSADYG
                      DIIPDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMANGN
                                        DIIPDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMANGN
                                                                      NOPAQSSKLLKINDGEGYTGDIVFANGSSTLYQNVTIRQGRIVLREKAKLSVNSLSQTGG
                                                                                                                     SLYMEAGSTWDFVTPQPPQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDSHP
                                                                                                                                                                   AVIGSTTAGSVTISGPIPFEDLDDTAYDRYDWLGSNQKINVLKLQLGTKPPANAPSDLTL
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06-AUG-2002; 2002EP-0018233.
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composition comprising Chlamydia trachomatis protein or leic acid, useful for immunizing against, or treating or
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                                                                                                                                                                               RSAHSAIQASVDGRSYCRGLWVSGVSNPFYHDRDALGQGYRYISGGYSLGANSYFGSSMF
                       RSAHSAIQASVDGRSYCRGLWVSGVSNPFYHDRDALGQGYRYISGGYSLGANSYFGSSMF
                                                                           GLAFTEVPGRSKDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDAFIRASYGFGNQHMKT
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                                                     1 MOTSFHKFFLSMILAYSCCSLSGGGYAAEIMIPQGIYDGETLIVSFPYTVIGDPSGTIVF
                                                                                          SAGELTLKNIDNSIAALPLSCFGNLLGSFTVLGRGHSLTFENIRTSTNGAALSNSAADGL
                                                                                                       PTIEGPKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTDLLLLNNEKFSF
                                      MQTSPHKFFLSMILAYSCCSLNGGGYAABIMVPQGIYDGETLTVSFPYTVIGDPSGTTVF
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Mismatches
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Best Local Similarity
Matches 983; Conser
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                                                                                                                                     361 GEGVVPPSSNVAAGKGGAIYAKKLSVANCGPVQFLGNIANDGGAIYLGESGELSLSAADYG
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06-AUG-2002; 2002EP-00182233.
14-AUG-2002; 2001EP-00218924.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New immunogenic composition comprising Chlamydia trachomatis protein or
its encoding nucleic acid, useful for immunizing against, or treating or
preventing chlamydial infection.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention comprises an immunogenic composition for the treatment oprevention of a Chlamydia trachomatis infection. The immunogenic composition contains a Chlamydia trachomatis protein or its encoding nucleic acid. The immunogenic composition of the invention is useful treating or preventing chlamydial infection. The present amino acid sequence represents a Chlamydia trachomatis protein of the invention. NOTE: The present sequence is not shown in the specification, but was obtained from the USPTO website.
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                                                                                                                                                                                               chlamydia trachomatis infection; antibacterial; vaccine.
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                                                                                                                                                       Chlamydia trachomatis protein - SEQ ID 83
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                        AEA19080 standard; protein; 1013
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06-AUG-2002; 2002BP-0018233.
14-AUG-2002; 2001BP-0018924.
12-DBC-2002; 2002WO-IB005761.
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N-PSDB; ARA19081.
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(RATT/) RATTI G.
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                                                                                                                                                                                                                                                                                                 QARAFKSGHLLNLSVPVGVKFDRCSSTHPNKYSFMAAYICDAYRTISGTETTLLSHQETW
                                                                                                                                                                                                                                                                                                                      901 QARAFRSGHLMNLSVPVGVKFDRCSSTHPNKYSFMGAYICDAYRISGTQTTLLSHQETW
                                                                                                                                                                                         841 SYTFAEESDVRWDNNCLVGEIGVGLPIVITPSKLYLNBLRPFVQAEFSYADHESFTEEGD
                                                                                                                             SYTFAEESDVRWDNNCLAGEIGAGLPIVITPSKLYLNELRPFVQAEFSYADHESFTEEGD
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GNEMPKYGYQGSWKLAMDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGSILDI
                                                                                                           RSAHSAIQASVDGRSYCRGLWVSGVSNFFYHDRDALGQGYRYISGGYSLGANSYFGSSMF
                                                                                                                                                                         GLAFTEVFGRSKDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDAFIRASYGFGNQHMKT
                                               GNEMPKYGYQGSWKLAMDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGSILDI
                                                                                                                                                                                                                                                                                                                                                               960 TTDAFHLARHGVVVRGSMYASLTSNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
                                                                                                                                                                                                                                                                                                                                                                               chlamydia trachomatis infection; antibacterial; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chlamydia trachomatis protein - SEQ ID 93.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 13; SEQ ID NO 93; 90pp; English.
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06-AUG-2002; 2002EP-00182233.
14-AUG-2002; 2001EP-00218924.
12-DEC-2002; 2002WO-IB005761.
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N-PSDB; ARA19091.
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RATTI G.
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(RATT/)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241 VAGYRGGGLAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEFDGNVARVGGGIYSYGNVAFL
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                                                                                                                                                            New immunogenic composition comprising Chlamydia trachomatis its encoding nucleic acid, useful for immunizing against, or preventing chlamydial infection.
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                                                                                                                                                                                                                              Claim 13; SEQ ID NO 9; 90pp; English
           12-DEC-2002; 2002WO-IB005761
                                                                                                                     2005-354777/36
                                                                                      Grandi G, Ratti G;
                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1013 AA;
                                       (GRAN/) GRANDI G.
(RATT/) RATTI G.
                                                                                                                   WPI; 2005-354777
N-PSDB; AEA19007
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                                                   TTDAFHLARHGVIVRGSMYASLTSNIEVYGHGRYEYRDTSRGYGLSAGSKVRF
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                                TTDAFHLARHGVVVRGSMYASLTSN1EVYGHGRYEYRDASRGYGLSAGSRVRF
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22; Mismatches
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06-AUG-2002; 2002EP-0018233.
14-AUG-2002; 2001EP-00218924.
12-DEC-2002; 2002WO-IB005761.
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Matches 979; Conservative
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NOTE: The present sequence is not shown in the specification, but obtained from the USPTO website - seqdata.uspto.gov/sequence.html?DocID=20050106162.
                                                                                                                              Length 1013;
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                                                                                                                         Query Match 97.3%; Score 5123.5; DB 9; Length Best Local Similarity 96.6%; Pred. No. 0; Matches 979; Conservative 22; Mismatches 11; Indels
                                                                                     Sequence 1013 AA,
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                                                                                                                                                                                                       New immunogenic composition comprising Chlamydia trachomatis protein o its encoding nucleic acid, useful for immunizing against, or treating preventing chlamydial infection.
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                                                                                                                                                                                                                                                                                  The invention comprises an immunogenic composition for the treatment of prevention of a Chlamydia trachomatis infection. The immunogenic composition contains a Chlamydia trachomatis protein or its encoding nucleic acid. The immunogenic composition of the invention is useful freating or preventing chlamydial infection. The present amino acid sequence represents a Chlamydia trachomatis protein of the invention. NOTE: The present sequence is not shown in the specification, but was obtained from the USPTO website.
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96.5%; Pred. No. 0;
iive 23; Mismatches
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                                             12-DEC-2001; 2001GB-00029732.
06-AUG-2002; 2002EP-00182233.
14-AUG-2002; 2001EP-00218924.
12-DEC-2002; 2002WO-IB005761.
                       16-DEC-2004; 2004US-00498327
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RATTI G.
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its encoding nucleic acid, useful for immunizing against, or treating or
preventing chlamydial infection.
NQPAQSSEPLKINDGEGYTGDIVFANGNSTLYQNVTIEQGRIVLREKAKLSVNSLSQTGG
                SLYMEAGSTWDFVTPQPPQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDSHP
                         SLYMEAGSTLDFVTPQPPQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPFAQDSHP
                                                AVIGSTTAGSVTISGPIFFEDLDDTAYDRYDWLGSNQKINVLKLQLGTKPPANAPSDLTL
                                                           GNEMPKYGYQGSWKLAMDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGSILDI
                                                                                             GNEMPKYGYQGSWKLAMDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLMGSILDI
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14-AUG-2002; 2001EP-00218924.
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The invention comprises an immunogenic composition for the treatment prevention of a Chiamydia trachomatis infection. The immunogenic composition contains a Chlamydia trachomatis protein or its encoding nucleic acid. The immunogenic composition of the invention is useful treating or preventing chlamydial infection. The present amino acid sequence represents a Chlamydial infection. The present amino acid NoTB: The present sequence is not shown in the specification, but was obtained from the USPTO website.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 SAGELTLYNLDNSIAALPLSCPGNLLGSPTVLGRGHSLTPENIRTSTNGAALSNSAADGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SAGELTLKNIDDNSLAALPLSCFGNILGSFTVLGRGHSLTFENIRTSTNGAALSDSANSGL
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                                                                                                                                                                                                                                                                                                                                                                                                                                1 MQTSFHKPFL8MILAYSCCSLNGGGYAAEIMVPQGIYDGETLTVSFPYTVIGDPSGTTVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PTIEGFKELSFSNCWSLLAVLPAATTNNGSQTPTTTSTPSNGTIYSKTDLLLLINNEKFSF
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                                                                                                                                                                                                                                                                                                                          DB
                                                                                                                                                                                                                                                                                                                    97.2%; Score 5121.5;
96.5%; Pred. No. 0;
tive 23; Mismatches
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Matches 978; Conservative
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                            241 VAGVRGGGLAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEFDGNVARVGGGIXSYGNVAFL
                                                                                                                                                                                   GEGVVFFSSNVAAGKGGAIYAKKLSVANCGPVQFLRNIANDGGAIYLGESGELSLSADYG
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YSNLVSGDGGAIDAKSLTVQGISKLCVFQENTAQADGGACQVVTSFSAMANEAPIAFVAN
                                                                                                        VAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEPDGNVARVGGGIYSYGNVAFL
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NOTE: The present sequence is not shown in the specification, but was obtained from the USPPO website.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          New immunogenic composition comprising Chlamydia trachomatis protein or its encoding nucleic acid, useful for immunizing against, or treating or
     SYTFAEESDVRWDNNCLAGEICAGLPIVITPSKLYLNELRPFVQAEFSYADHESFTEEGD
                                           QARAFKSGHLIMLSVPVGVKFDRCSSTHPNKXSFWAAYICDAYRISGTETTLISHQETW
                                                     1; Gaps
                                                                                  TTDAFHLARHGVVVRGSMYASLTSNIEVYGHGRYBYRDASRGYGLSAGSRVRF 1012
                                                                                            97.1%; Score 5112.5; DB 9; Length 1013; 96.4%; Pred. No. 0; tive 23; Mismatches 12; Indels 1;
                                                                                                                                                                                                                               chlamydia trachomatis infection; antibacterial; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                segdata.uspto.gov/sequence.html?DocID=20050106162
                                                                                                                                                                                                              SEQ ID 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 13; SEQ ID NO 17; 90pp; English.
                                                                                                                                                     Z
                                                                                                                                                     AEA19014 standard; protein; 1013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    its encoding nucleic acid, usefu
preventing chlamydial infection.
                                                                                                                                                                                                               Chlamydia trachomatis protein
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06-AUG-2002; 2002EP-00182233.
14-AUG-2002; 2001EP-00218924.
12-DEC-2002; 2002WO-IB005761.
                                                                                                                                                                                                                                                                                                              16-DEC-2004; 2004US-00498327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 96.4
Matches 977; Conservative
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(RATT/) RATTI G.
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bacterial infection; conjunctivitis; lymphogranuloma venereum; LGV; extrictits; epiddymitis; endometritis; pelvic inflammatory disease; PID; salpingitis; tubal occlusion; infertility; cervical cancer; arteriosclerosis; atherosclerosis.
       DMIFDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMANGN
                                                                           481 NQPAQSSEPLKINDGEGYTGDIVFANGNSTLYQNVTIEQGRIVLREKAKLSVNSLSQTGG
                                                                                                                                                   480 NOPAQSSKLLKINDGEGYTGDIVFANGSSTLYQNVTIEQGRIVLREKAKLSVNSLSQTGG
                                                                                                                                SLYMEAGSTWDFVTPQPPQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDSHP
                                                                                                                                                                                                                       GLAFTEVFGRSKDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDAFIRASYGFGNQHMKT
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                                                                                                                                                                                                                                                                                                                                                RSAHSAIQASVDGRSYCRGLMVSGVSNFPYHDRDALAQGGYRYISGGYSLGANSYFGSSMF
                                                                                                                                                                                                      AVIGSTTAGSVTI SGPI FFEDLDDTAYDRYDWLGSNOKINVLKLOLGTKPPANAPSDLTL
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Chlamydia, high molecular weight protein, HMW protein, urethritis, bacterial infection, conjunctivitis, lymphogranuloma venereum; LGV, cervicitis; epididymitis; endometritis; pelvic inflammatory disease; PID; salpingitis; tubal occlusion; infertility; cervical cancer;
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                                                                           arteriosclerosis; atherosclerosis
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Matches 980, Conservative
                                                                                                               Chlamydia trachomatis
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Chlamydia protein useful for treating conjunctivitis, urethritis and
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96.7%; Pred. No. 0;
iive 15; Mismatches
                                          Claim 4; Page 119-123; 141pp; English
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Matches 980; Conservative
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The present sequence is provided in a specification relating to compounds and methods for the treatment and diagnosis of chlamydial infection. The compounds provided include polypeptides and fusion proteins comprising immunogenic portions of Chlamydia antigens and DNA sequences encoding such polypeptides. They are useful for vaccinating against chlamydial infection, which causes pelvic inflammatory disease, trachoma, acute respiratory tract infections, atherosclerosis and heart disease
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                                                                                                                                                                                       840 SYTFAESDVRWDINCLAGEIGAGLPIVITPSKLYLNELRPPVQAEFSYADHESFTEEGD
                                                                                                            GLAFTEVFGRSKDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDAFIRASYGFGNQHMKT
                                                                                                                                                                                                                                                                       TTDAFHLARHGVVVRGSMYASLTSNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chlamydia polypeptides and fusion proteins useful for preventing peinflammatory disease, trachoma, acute respiratory tract infections, atherosclerosis and heart disease.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chlamydia; vaccine; infection; fusion protein; antigen; pelvic inflammatory disease; trachoma; atherosclerosis; heart dacute respiratory tract infection; Capl; CT529; OMCB; polymorphic membrane protein; pmp; thiol specific antioxidant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1006;
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Pred. No. 0;
2; Mismatches
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19-APR-2000; 2000US-00556877.
20-JUN-2000; 2000US-00598419.
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al Similarity 99.7%;
979; Conservative
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Chlamydial infection; Chlamydia; vaccine; detection; diagnosis; antigen; antibacterial; immunostimulant; immune response; Chlamydia-specific T-cell response.

Chlamydia protein sequence SEQ ID NO:190

05-JUN-2002 (first entry)

Bhatia

Probst P,

Pling SP, Skeiky YAW, (CORI-) CORIXA CORP

WPI; 2002-179901/23

20-JUL-2000; 2000US-00620412. 23-APR-2001; 2001US-00841132. 20-JUL-2001; 2001WO-US023121

#0200208267-A2 Chlamydia sp

31-JAN-2002

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The present invention describes compositions comprising a Chlamydia Capi protein and methods for the diagnosis and therapy of Chlamydia infection. Chlamydia DNA and protein sequences from the present invention can have antibacterial and immunostimulant activities, and can be used in vaccines. Compounds from the present invention can be used for eliciting an immune response, specifically stimulating a Chlamydia infection in an animal. Methods from the present invention can be used for electing the presence of Chlamydia in a patient; to stimulate and/or expand T cells specific for a Chlamydia in a patient; to stimulate and/or expand T cells infection. Allogi394 to ABB32109 and ABB34096 to ABB34174 represent sequences used in the exemplification of the present invention
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Novel compositions comprising Chlamydia Capl protein and its use in the treatment of Chlamydia infection.
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                                                                                                 Example 1; Page 245-247; 537pp; English.
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ABB94178 standard; protein; 1006

ABB94178

RESULT 25
ABB94178
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YQNVTIEGGRIVLREKAKLSVNSLSQTGGSLYMEAGSTWDFVTPQPPQQPPAANQLITLS 570
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96.5%; Score 5084; D

Best Local Similarity 99.6%; Pred. No. 0;

Matches 978; Conservative 2; Mismatches
                                                                                                                    Claim 2; Page 181-184; 256pp; English.
                                                 Skeiky YAW,
99US-00288594.
99US-00410568.
99US-00426571.
                                                 Bhatia A,
                                 (CORI-) CORIXA CORP.
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22-OCT-1999;
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Misc-difference
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The present invention relates to new nucleic acid sequences and the proteins encoded by the nucleic acid sequences. The encoded proteins comprise an immunogenic portion of a Chlamydia antigen. The encoded comprise an immunogenic portion of a Chlamydia antigen. The encoded confection. Chlamdiae are intracellular bacterial pathogens that are responsible for a wide variety of human infections. C. trachomatis infection is one of the most common sexually transmitted diseases and can ceed to pelvic inflammatory disease (PID), resulting in tubal obstruction and infertility. Trachoma due to ocular infection with C. trachomatis is the leading cause of preventable blindness worldwide. C. pneumonia is a major cause of acute respiratory tract infections in humans and is also thought to play a role in the pathogenesis of atheroaclerosis and coronary heart disease. The present sequence is a protein isolated in the present invention
                                                                                                                                                  Chlamydia infection which comprises amino
EJ;
        Stromberg
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                                                                                                                                                           Isolated polypeptide for diagnosis and treatment of comprises immunogenic portion of Chlamydia antigen, acid sequence encoded by polynucleotide sequence.
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and methods for the treatment and diagnosis of chlamydial infection. The compounds provided include polypeptides and fusion proteins comprising immunogenic portions of Chlamydia antigens and DNA sequences encoding such polypeptides. They are useful for vaccinating against chlamydial infection, which causes pelvic inflammatory disease, trachoma, acute respiratory tract infections, atherosclerosis and heart disease
                                                                                                                                                                                                                                                                                                                                              61 VLGRGHSLTFENIRTSTNGAALSNSAADGLFTIEGFKELSFSNCNSLLAVLPAATTNKGS
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NIHLSLSSLLANNAVTNPPTNPPAQDSHPAVIGSTTAGSVTISGPIFFEDLDDTAYDRYD
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19-APR-2000; 2000US-00556877.
20-JUN-2000; 2000US-00598419.
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                                        NTAQADGGACQVVTSFSAMANEAPIAFVANVAGVRGGGIAAVQDGQQGVSSSTSTEDPVV
                                                      SPSRNTAVEPDGNVARVGGGIYSYGNVAFLNNGKTLFLNNVASPVYIAAKQPTSGQASNT
                                                                                                                                              SINIYGDGGAIFCKNGAQAGSINISGSVSFDGEGVVFFSSINVAAGKGGAIYAKKLSVANCGP
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 trachomatis pmpG gene protein.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            91 VLGRGHSLTFENIRTSTNGAALSNSAADGLFTIEGFKELSFSNCNSLLAVLPAATTNKGS 150
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                                                                                                                                                                                                                                                        Chlamydial infection; Chlamydia; vaccine; detection; diagnosis; antigen; antibacterial; immunostimulant; immune response; Chlamydia-specific T-cell response.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel compositions comprising Chlamydia Capl protein treatment of Chlamydia infection.
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2; Mismatches
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                                                                                                                                                                                                                                 Chlamydia protein sequence SEQ ID NO:176.
                                                             GRYEYRDASRGYGLSAGSRVRF 1012
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                                                                         ABB94172 standard; protein; 982
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23-APR-2001; 2001US-00841132
                                                                                                                                                                                                       (first entry)
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Matches 978, Conservative
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antibacterial;
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                    VQFLRNIANDGGAIYLGESGELSLSADYGDIIFDGNLKRTAKENAADVNGVTVSSQAISM
                                                                                                                                                 NLHLSLSSLLANNAVTNPPTNPPAQDSHPAVIGSTTAGSVTISGPIFFEDLDDTAYDRYD
                                                                                                                                                                                                                        WIGSNGKINVIKIQIGTKPPANAPSDLTIGNEMPKYGYQGSWKLAMDPNTANNGPYTIKA
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                                                      GSGGKITTLRAKAGHQILFNDPIEMANGNNQPAQSSKLLKINDGEGYTGDIVFANGSSTL
                                                                                                                            YQNVTIEQGRIVLREKAKLSVNSLSQTGGSLYMEAGSTWDFVTPQPPQQPPAANQLITLS
                                                                                                                                                                                                                                                                         WLGSNQKINVLKLQLGTKPPANAPSDLTLGNEMPKYGYQGSWKLAWDPNTANNGPYTLKA
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 antiinfertility; cardiant; antiarteriosclerotic; ophthalmological; vaccine; gene therapy; immune response; pelvic inflammatory disease; tubal obstruction; infertility; male infertility; ocular infection; blindness; acute respiratory tract infection; atherosclerosis;
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05-DEC-2001; 2001US-00007693.
15-JUL-2002; 2002US-00197220.
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                                                                                                                                                                                                                                                                                                                                                                            Isolated polypeptide for diagnosis and treatment of Chlamydia infection comprises immunogenic portion of Chlamydia antigen, which comprises amino acid sequence encoded by polynucleotide sequence.
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; Pred. No. 0;
2; Mismatches
coronary heart disease; antibacterial,
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 2; Page 208-210; 256pp; English.
                                                                                                                                                                                              99US-00288594.
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Best Local Similarity 99.6
Matches 978; Conservative
                                 Chlamydia trachomatis
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                                                                     WO200034483-A2
                                                                                                                                           08-DEC-1999;
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01-OCT-1999;
                                                                                                       15-JUN-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vaccine, eye disease; conventional trachoma; nonendemic trachoma; paratrachoma; inclusion conjunctivitis; genital disease; perihepatitis; nongonococcal uretritis; epidymitis; cervicitis; salpingitis; bartholinitis; pneumopathy; venereal lymphogranulomatosis.
481 NSTLYQNVTIBQGRIVLREKAKLSVNSLSQTGGSLYMEAGSTLDFVTPQPPQQPPAANQL
                                                                                                                                       DRYDWLGSNQKINVLKLQLGTKPPANAPSDLTLGNEMPKYGYQGSWKLAMDPNTANNGPY
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Pred. No. 1.7e-170;
0; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chlamydia trachomatis cellular envelope protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Page 996-997; 1755pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Genome sequence of Chlamydia trachomatis
                                                                                                                                                                                                                                                                                                                                      AAY37238 standard; protein; 524 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             use in treating these diseases
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97FR-00016034.
98US-0107077P.
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nilarity 99.4%;
Conservative 0
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17-DEC-1997;
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                                                                                                                         627
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Matches
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                                                                                                                                                                                                                                                                                                    RESULT
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                                                                                                                                                                                                                                                                                              The present invention describes compounds and methods for diagnosing and treating Chlamydial infection. Chlamydia polynucleotide and protein sequences have antiblotic, antiinflammatory, antiinfertility, cardiant, antiarteriosclerotic and ophthalmological activities, and can be used in vaccines, and in gene therapy. The Chlamydia polynucleotides, proteins, compositions or methods from the present invention can be used for the seroidsgnosis or treatment of Chlamydial infections, particularly in seroidsgnosis or treatment of Chlamydial infections are particularly useful for stimulating an immune response in a patient, or for stimulating and/or expanding T cells specific for a Chlamydia protein. Specifically, the polynucleotides, proteins or compositions are useful compositions in the polynucleotides, proteins or compositions are useful as vaccines for treating or preventing Chlamydial infections including pelvic inflammatory disease (which results in tubal obstruction and infertility in women), male infertility, ocular infections which may coronary heart disease. The present sequence is used in the exemplification of the present invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                              New DNA and proteins comprising a portion of a Chlamydia antigen, useful for diagnosing or treating Chlamydial infections, particularly as vaccines for treating or preventing Chlamydial infections, e.g. pelvic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28 AEIMVPQGIYDGETLIVSFPYTVIGDPSGTTVFSAGELTLKNLDNSIAALPLSCFGNLLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AEIMIPQGIYDGETLTVSFPYTVIGDPSGTTVFSAGELTLKNLDNSIAALPLSCFGNLLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     148 KGSQTPTTTSTPSNGTIYSKTDLLLLINNEKPSFYSNLVSGDGGAIDAKSLTVQGISKLCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 NGSQTPTTTSTPSNGTIYSKTDLLLLANNEKFSFYSNLVSGDGGAIDAKSLTVQGISKLCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FQENTAQADGGACQVVTSFSAMANEAPIAFVANVAGVRGGGIAAVQDGQQGVSSSTSTED
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCGPVQFLRNIANDGGAIYLGESGELSLSADYGDIIFDGNLKRTAKENAADVNGVTVSSQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7; Length 670;
                                                  'n
                                                    Barth
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                                                    Skeiky YAW, Maisonneuve JL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   63.3%; Score 3336.5; DB 7; 97.2%; Pred. No. 8.4e-222; ive 11; Mismatches 7;
                                                                                                                                                                                                                                                                   Claim 2; SEQ ID NO 169; 275pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 651; Conservative
                                                    Guderian J,
                                                                                                                                                                                                                             inflammatory disease.
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                                                                                                             2003-441771/41.
              (CORI-) CORIXA CORP
                                                                                                                             N-PSDB; ADD42747.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 670 AA;
                                                    Bhatia A,
Probst P;
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determined by SDS-PAGE. The HWW proteins and nucleic acid molecules can be used for preventing, treating or ameliorating a disorder related to Chlamydia e.g. bacterial infection, conjunctivitis, urethritis, lymphogranuloma venereum (LGV), cervicitis, epididýmitis, endometritis, pelvic inflammacry disease (PID), salpingitis, tubal occlusion, cervical cancer, infertility, arteriosclerosis and atherosclerosis. The products can also be used for detection and disgnosts. The present sequence represents a C. trachomatis HWW protein fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VVSFSRNTAVEFDGNVARVGGGIXSYGNVAFLANGKTLFLANVASPVYIAAKQPTSGQAS 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NTSNNYGDGGAIFCKNGAQAGSNNSGSVSFDGEGVVFFSSNVAAGKGGAIYAKKLSVANC 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chlamydia; high molecular weight protein; HMW protein; urethritis; bacterial infection; conjunctivitis; lymphogranuloma venereum; LGV; cervicitis; epididymitis; endometritis; pelvic inflammatory disease; PID; salpingitis; tubal occlusion; infertility; cervical cancer; arteriosclerosis; atherosclerosis.
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                                                                                                                                                                             Length 505;
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                                                                                                                                                                              DB 2;
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                                                                                                                                                                           / Match 48.4%; Score 2547; DB 2; Local Similarity 99.8%; Pred. No. 2.4e-167 hes 504; Conservative 1; Mismatches 0
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                                                                                                                                               Sequence 505 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chlamydia; high molecular weight protein; HWW protein; urethritis; bacterial infection; conjunctivitis; lymphogranuloma venereum; LGV; cervicitis; epididymitis; endometritis; pelvic inflammatory disease; PID; salpingitis; tubal occlusion; infertility; cervical cancer; arteriosclerosis; atterosclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                conjunctivitis, urethritis and
                                  PAATTINKGSQTPTTTSTPSNGTIYSKTDLLLINNEKFSFYSNLVSGDGGAIDAKSLTVQG
                                                                                                ISKLCVFQENTAQADGGACQVVTSFSAMANEAPIAFVANVAGVRGGGIAAVQDGQQQGVSS
                                                                                                                                                                STSTEDPVVSFSRNTAVBFDGNVARVGGGISSYGNVAFLNNGKTLFLNNVAPPVYIAAKQ
                                                                                                                                                                                                                          PTSGQASNTSNNYGDGGAIPCKNGAQVGSNNSGSVSPDGEGVVFPSSNVAAGKGGAIYAK
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                                                                                                                                                                                                        PTSGQASNTSNNYGDGGAI FCKNGAQAGSNNSGSVSFDGEGVVFFSSNVAAGKGGAIYAK
                                                                                                                                                                                                                                                                      KLSVANCGPVQFLRNIANDGGAIYLGESGELSLSADYGDIIFDGNLKRTAKENAADVNGV
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    C. trachomatis L2 HMW protein fragment.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY16739 standard, protein; 505
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-OCT-1998;
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Chlamydia sp
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                                                                                                                                                The invention relates to an isolated Chlamydia species high molecular weight (HMW) protein having an apparent mol. wt. of 105-115 kD as determined by SDS-PAGE. The HWW proteins and nucleic acid molecules can be used for preventing, treating or ameliorating a disorder related to Chlamydia e.g. bacterial infection, conjunctivitis, urethritis, lymphogranuloma venereum (LGV), cervicitis, epididymitis, endometritis, pelvic inflammatory disease (PID), salpingitis, tubal occlusion, cervical cancer, infertility, arterioscierosis and atherosclerosis. The products can also be used for detection and diagnosis. Sequences AAY16740-Y16752 represent Chlamydia HWW protein fragments
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                                                                                                    Chlamydia protein useful for treating conjunctivitis, urethritis and
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                                                                                                                                                                                                                                                                                                                            1 GGACQVVTSFSAMANEAPIAFVANVAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNT
                                                                                                                                                                                                                                                                                                                                                       277 AVBFDGNVARVGGGIYSYGNVAFLANNGKTLFLANNVASPVYIAAKQPTSGQASNTSNNYGD
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                                                                                                                                                                                                                                                                            44.6%; Score 2350; DB 2; Length 458; 100.0%; Pred. No. 9e-154; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KINVLKLOLGTKPPANAPSDLTLGNEMPKYGYQGSWKL 674
                                                                                                                                  Claim 5; Page 133-135; 141pp; English
                             97US-00942596
          98WO-US020737
                                               (ANTE-) ANTEX BIOLOGICS INC
                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.0
Matches 458; Conservative
                                                                  Pace JL;
                                                                                    WPI; 1999-287659/24
                                                                                                                                                                                                                                                             Sequence 458 AA;
                                                                                                                 cervical cancer.
           01-OCT-1998;
                             02-OCT-1997;
                                                                   Jackson JW,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chlamydia protein useful for treating conjunctivitis, urethritis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ITPSKLYLNELRPPVQAEFSYADHESFTEEGDQARAFKSGHLLNLSVPVGVKFDRCSSTH
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                                                    Chlamydia; high molecular weight protein; HMW protein; urethritis;
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100.0%; Pred. No. 2e-111;
iive 0; Mismatches 0;
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                                                                                                                                               salpingitis; tubal occlusion; infe
arteriosclerosis; atherosclerosis.
Chlamydia HMW protein fragment.
                                                                                                                                                                                                                                                                                                                                                                                                              98WO-US020737.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cervical cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (ANTE-) ANTEX
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RESULT

AAY16752 standard; protein; 325

RESULT 34 AAY16752 21-JUL-1999

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Sequences ABB90526-ABB90715 represent novel proteins from Chlamydia pneumoniae (strain CWL029), and ABL91184-ABL91373 represent DNA encoding them. The proteins are predicted to be immunogenic and may therefore be useful in vaccine production and for diagnostic purposes. Chlamydia also involved in the development of cardiovacular diseases such as a therosclerosis, coronary artery disease, carcid artery stenosis, coronary artery disease, acrtic aneurysm, any cardiotation and stroke. The proteins and nucleic acids of the invention may be used in vaccines and pharmaceutical compositions for the proteins and nucleic acids of the invention of prevention or treatment of chlamydial infections, particularly Chlamydia pneumoniae, and the nucleic acids may be used in PCR, branched DNA probe assay or blotting techniques for determining Chlamydia psecifically claimed Chlamydia proteins may proteins may be used in PCR, branched DNA probe assay or blotting techniques for determining Chlamydia specifically claimed Chlamydia perucein of the invention. Composition of specifically claimed Chlamydia peruceine protein of the invention.
                                                                                                                                                           Chlamydial infection; antigen; immunogen; vaccine; diagnosis; human respiratory disease; cardiovascular disease; atherosclerosis; coronary artery disease; carotid artery stenosis; myocardial infarction; cerebrovascular disease; aortic aneurysm; claudication; stroke;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel Chlamydia pneumoniae protein useful in the manufacture of a medicament for treatment or prevention of infection due to Chlamydia, preferably Chlamydia pneumoniae, and for diagnostic purposes.
                                                                                                                              Chlamydia pneumoniae cp6736 protein, SEQ ID NO:3.
                                                                                                                                                                                                                                                                                                                                                            /note= "Mature protein"
                                                                                                                                                                                                                                                                                                                1. .24
/label= Signal_peptide
                                                                                                                                                                                                                                                                                            Location/Qualifiers
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               ABB90527 standard; protein; 973
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7 2000GB-00017047.
7 2000GB-00019368.
7 2000GB-00020440.
7 2000GB-0002583.
7 2000GB-0002583.
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                                                                                              (first entry)
                                                                                                                                                                                                                                                             Chlamydophila pneumoniae
                                                                               (revised)
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N-PSDB; ABL91185.
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18-AUG-2000;
14-SEP-2000;
10-NOV-2000;
                                                                                                                                                                                                                               strain CWL029
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29-JUL-2002
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ABB90527
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                                    MOTSPHKFFLSMILAYSCCSLNGGGYAARIMVPQGIYDGBTLTVSFPYTVIGDPSGTTVF
                                                                                        61 SAGELTLKNLDNSIAALPLSCFGNLLGSFTVLGRGHSLTFENIRTSTNGAALSNSAADG-
                                                                                                                                                                                                                                                PVANVAGVRGGGIAAVQDGQQGVSSSTSTBDPVVSFBRNTAVBFDGNVARVGGGIYSYGN
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Pred. No. 4e-85;
1; Mismatches 420; Indels 103;
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33.5%;
Best Local Similarity
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                                           VAFLANGKTLFLANVVASPV-YIAAKQPTSGQASNTSNNYGDGGAIFCKNGAQAGSNNSGS
                                                                                   VTPSNNSDLTFONNTASPONSLPAPTPPPAVTP-LLGYGGAIFCTPPATPPPTGV-S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present sequence is the Chlamydia pneumoniae POMP91B precursor protein. Infection by Chlamydia can result in respiratory tract diseases such as bronchitis, sinusitis and pneumonia, asthma and atherosclerosis. The game, protein and antibodies can be used as immunogens to induce an immune reaction in humans which has the effect of vaccinating the person. They can also be used to disgnose and treat those infected with the parasite. (Updated on 12-SEP-2003 to standardise OS field)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel Chlamydia POMP91B precursor protein antigen, used for vaccination and protection against Chlamydia infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MQTSFHKFFLSMILAYSCCSLNGGGYAAEIMVPQGIYDGETLTVSFPYTVIGDPSGTTVF
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                                                                                                                                                                                                                                                                                                                        Chlamydia; POMP91B; respiratory tract disease; infection; bronchitis; sinusitis; pneumonia; atherosclerosis; asthma; vaccine; immunogen.
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25.8%; Score 1359.5; DB 3; Length 973;
Best Local Similarity 33.4%; Pred. No. 1e-84;
Matches 349; Conservative 171; Mismatches 421; Indels 103;
                  GHCGCDIRRTSRQYTLDIGSKLRF 973
                                                                                                                                                                                                                                                                                   Chlamydia POMP91B precursor protein.
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                                                                                                                            AAY96274 standard; protein; 973
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29-OCT-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 831 FSD--KSTYDLSIAYVPDVIRNDPGCTTTLMVSGDSWSTCGTSLSRQALLNYRAGNHHAFA 888
SLSADYGDIIFDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDP
                       | :||:: |:::| ||: |:::| || 442 AGALVLKDGGTTVVANTITQVEGSKVVMDGGTTFE-------ASAEGVTLNGLAINI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GUQRSYRHSSAGYALGGGFFTASENFFNFAFCQLFGYDKDHLVAKNHTHVYAGAMSYRHL
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                                                                               --NGSSTLYONVTIE
                                                                                                                                                      QGRIVLREKAKLSVNSLSQTGGS-LYMEAGSTWDFVTPQPPQQPPAANQLITLSNLHLSL
                                                                                                                                                                                                                               SSLLANNAVTNPPTNPPAQDSHPAVIGSTTAG-SVTISGPIFFEDLDDTAYDRYDWLGSN
                                                                                                                                                                                                                                                                    491 DSLDGTW------KAIIKATAASKDVALSGPIMLVDAQGNYYEHHN-LSQQ
                                                                                                                                                                                                                                                                                                                                KTGYNPGPERVASLVPNSLMGSILDIRSAHSAIQASVDGRSYCRGLMVSGVSNFFYHDRD
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                                                                                                              386 ITSSGATDK----LSLNKADAGSGNTYEGYIVFSGEKLSBEBLKKPDNLKSTFTQAVELA
                                                                                                                                                                                                                                                                                                          QKINVLKLQL-GTKPPANAPSDLTLGNEMPKYGYQSWKLAM-DPNTANNGPYTLKATWT
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                                                                           473 IEMANGNNQPAQSSKLLKINDGEG--YTGDIVFA-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ANY69362-69 represent Chlamydia pneumoniae polypeptides are present in the bacterial membrane structure, in the external vicinity of the embrane structure, in the inclusion membrane structure, in the external vicinity of the inclusion membrane structure, and in the cytoplasm of the infected cell. The polypeptides may be used to prevent, treat and detect the presence of Chlamydia infection and/or the presence of Chlamydia infection and/or the presence of Chlamydia infection and/or the presence of Chlamydia infection and/or the presence of Chlamydia in a sample. The polypeptides may also be used to induce an immune response in a mammal. The vaccine vector comprising the polypucleotides is used to induce an immune response in a mammal. Antibodies directed against the polypeptides may also be used the the polypeptides may also be used on 12-SEP-2003 to standardise OS field)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            189 LGNSSSQQGGAIYASGD-----SVISENAGILSFGNNSA------TTSGGAISAEGNL 235
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           178 FSFYSNLVSGDGGAIDAKSLTVQGISKLCVFQENTAQADGGACQVVTSFSAMANEAPIAF 237
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                                                                                                                                                                                                                                                                                                                                                                             Novel antigens and corresponding DNA molecules that can be used to prevent, treat and diagnose disease caused by Chlamydia infection imammals, especially humans.
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                                                 98US-009718RP.
98US-0097188P.
98US-0097180P.
98US-0097190P.
98US-0097196P.
98US-0097197P.
               99WO-IB001449
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                                                                                                                                                                                                                                                                                  Murdin AD, Oomen RP;
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N-PSDB; AAZ61509.
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20-AUG-1998;
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20-AUG-1998;
20-AUG-1998;
20-AUG-1998;
               18-AUG-1999;
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                                                                                                                                                                 This polypeptide comprises the novel 96.7 kDa surface exposed protein omp9 of the human respiratory pathogen Chlamydia pneumoniae. Its amino acid sequence was deduced from DNA (see AAX06821) isolated from a C. pneumoniae expression library. The invention provides 12 novel surface exposed proteins, Omp4-Omp15 (see AAX06816-27). A new species specific test is sequences encoding them (see AAX06816-27). A new species specific test is claimed that is used to identify mammals (including humans) infected with C. Chlamydia pneumoniae. The test comprises detecting antibodies specific for Omp4-Omp15 or detecting nucleic acid fragments encoding these outer camenbrane proteins, especially by PCR. The proteins are also used in the immunication of mammals, the nucleic acids and proteins can also be used in the immunization of mammals, the nucleic acids and proteins being particularly useful as DNA vaccines for effecting in vivo expression of antigens. The vaccines may also prevent atherosclerosis and bronchial asthma, which are possibly associated with C. pneumoniae.

(Updated on 17-OCT-2003 to standardise OS field)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                    Species-specific test for identifying mammals infected with Chlamydia pneumoniae - comprises detecting antibodies specific for outer membrane proteins of C. pneumoniae or nucleic acids encoding these proteins.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MRSSFSLLLISSSLAPPLLMSVSADAADLTLGSRDSYNGDTSTTEFTPKAATSDASGTTY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FSAGELTLKNLDNSIAALPLSCFGNLLGSFTVLGRGHSLTFENIRTST-NGAALSNSAAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 ILDGDVSISQAGKQ-TSLTTSCPSNTAGNLTFLGNGFSLHFDNIISSTVAGVVVSNTAAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120 GITKFSGF-----STLRMLAAPRITGKGAIKIT-----DGLVFESIGNLDON---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           178 FSFYSNLVSGDGGAIDAKSLTVQGISKLCVFQENTAQADGGACQVVTSFSAMANBAPIAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LGNSSSQQGGAIYASGD-----SVISENAGILSFGNNSA-----TTSGGAISAEGNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            236 VISNNONIPP-----KAGANPDPILT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FDGEGVVPPSSNVAAGKGGAIYAKKLSVAN-CGPVQPLRNIAND----GGAIYLGESGEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SLSADYGDIIPDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IEMANGNNQPAQSSKLLKINDGEG--YTGDIVPA-----NGSSTLYQNVTIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MQTSFHKFFLSMILAYSCCSLNGGGYAAEIMVPQGIYDGETLTVSF-PYTVIGDPSGTTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels 170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 918;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 21.7%; Score 1143; DB 2; 18est Local Similarity 30.9%; Pred. No. 9.1e-70; Matches 324; Conservative 163; Mismatches 393;
                                                                                                                                            Claim 7; Page 56-58; 115pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 918 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           442
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present sequence is the 98kDa putative outer membrane protein from Chlamydia pneumoniae. The genomic sequence was amplified using two PCR primers. The 5' primer contains a NotI restriction site, a ribosome
                                                                                                                                                                                                      810 STQQALCGSYLFGDA----FI---RASYGFGNQHMKTSYTFAEESDVRWDNNCLAGEIGA
                                                                                                                                                                                                                         712 GESKTL-AKILSGNSDSLPFVFNARFAYGHTDNNMTTKYTGYSPVKGSWGNDAFGIECGG
                                                                                                                                                                                                                                                                                   GNORSYRHSSAGYALGGGFFTASENFFNFAFCQLFGYDKDHLVAKNHTHVYAGAMSYRHL
                                                                                                                                                                                                                                                                GLPIVITPSKLYLNELRPFVQAEFSYADHESFTEEGDQARAFKSGHLLNLSVPVGVKFDR
                                                                                                                                                                                                                                                                                                                           CSSTHPNKYSFMAAYICDAYRTISGTETTLLSHQETWITDAFHLARHGVVVRGSMYASLT
                                               754 ALGQGYRYISGGYSLGANSYFGS-SMFGLAFTEVFGRSKDYVVCRSNHHACIGSV---YL
-----KAIIKATAASKDVALSGPIMLVDAQGNYYEHHN-LSQQ
                             QKINVLKLQL-GTKPPANAPSDLTLGNEMPKYGYQGSWKLAW-DPNTANNGPYTLKATWT
                                                                                     KTGYNPGPERVASIVPNSIWGSILDIRSAHSAIQASVDGRSYCRGLWVSGVSNFFYHDRD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chlamydia; antigen; vaccine; infection; outer membrane protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chlamydia pneumoniae 98kD putative outer membrane protein.
                                                                                                                                                                                                                                                                                                                                                                                      SNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
                                                                                                                                                                                                                                                                                                                                                                                                                  SNFEVFSQFEVELRGSSRSYAIDLGGRFGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY94327 standard; protein; 928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 6; Fig 1; 93pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98US-0106070P.
99US-0122066P.
99US-00428122.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99WO-GB003579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (CONN-) CONNAUGHT LAB LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chlamydophila pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI: 2000-365569/31.
    491 DSLDGTN----
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the 98kDa putative outer membrane protein coding sequence. The 3' primer contains the sequence encoding the C-terminal sequence of the putative outer membrane protein and a Bardi restriction site. The stop codon was excluded and an additional nucleotide was inserted to obtain an in-frame C-terminal fusion with the Histidine tag. The PCR product was cloned into a eukaryotic expression vector (pCA-MyC-His) by restricting both the vector and the PCR product with Not1 and BamHi and performing a ligation reaction. This expression vector was injected intramuscularly and intransally into mice, which were subsequently incoulated with Chlamydia pneumoniae. The chlamydial lung titers of the immunised mice were lower than those of the controls. Thus the 98kDa putative outer membrane protein can be used as a vaccine to provide protection against Chlamydia infections, especially Chlamydia pneumoniae infections. The present polypeptide may also be administered orally to treat Chlamydia infection. (Updated on 12-SBP-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GLPTIEGFKELSPSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTDLLLLLNNEKP 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KSTTPIGESSLSF----IASPGSSITTGKGAVSCSTGS-----LSLTKNVSL 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SFYSNLVSGDGGAIDAKSLTVQGISKLCVFQENTAQADGGACQVVTSFSAMANEAPIAFV 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ANVAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEFDGNVARVGGGIYSYGNVA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PLNNGKTLFLNNVASPVY1AAKQPTSGQASNTSNNYGDGGA1FCKNGAQAGSNNSGSVSF 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               279 TGNOMLLPSNNTSTTAGGAIYVKKLELASGGLTLPSRNSVNGGTAPKGGAIALEDSGELG 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            516 IEQGRIVLREKAKLSVNSLSQTGGS-LYMEAGSTWDFVTPQPPQQPPAANQLITLSNLHL 574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             447 LSGGTLSLKHGVTLQTQAFTQQADSRLEMDVGTTLE-------PADTS--TINNLVI 494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             54
initiation codon and a sequence close to the 5' end of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55 LFKGNVTLENIPOTGTAITKSCFNNTKGDLTFTGNGNSLLPQTVDAGTVAGAAVNSSVVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LFSKNFSTDNGGAITAKTLSLTGTTMSALFSENTSSKKGGAIQTSDALTITGNQGEVSF-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       236 ISNNAKVSFIDN-----KVTGASSSTTGDM-SGGAICAYK----TSTDTKVTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 391 TTGSSTT----VTDVLKVNETPADSALQYTGNIIFTGEKLSETEAADSKNLTSKLLQPVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MOTSPHKFFLSMILAYSCCSLNGGGYAAR-IMVPQGIYDGBTLTVSFPYTVIGDPSGTTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MKSSPPKFVFSTPAIFPLSMI-----ATETVLDSSASFDGNK-NGNFSVRESQEDAGTTY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60 FSAGELTLKNLDNSIAALPLSCFGNLLGSFTVLGRGHSLTFENIRTST-NGAALSNSAAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DGBGVVPPSSNVAAGKGGAIYAKKLSVANCGPVQPLRNIAN-----DGGAIYLGESGELS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LSADYGDI I FDGNLKRTAKENAADVNGVTVSSQA I SMGSGGKI TTLRAKAGHQI LFNDPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMANGNNQPAQSSKLLKINDGEG----YTGDIVFA------NGSSTLYQNVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity 29.2%; Fred. NO. 15-50;
Matches 311; Conservative 169; Mismatches 394; Indels 192;
                                                                                                                                                                                                                                                                                                                                                                                                                                   21.4%; Score 1128; DB 3; Length 928; 29.2%; Pred. No. 1e-68;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                          Sequence 928 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     239
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SLSSLLANNAVTNPPTNPPAQDSHPAVIGS-TTAGSVTISGPIFFEDLDDTAYDRYDMLG 633

575

8 8 8

634

692

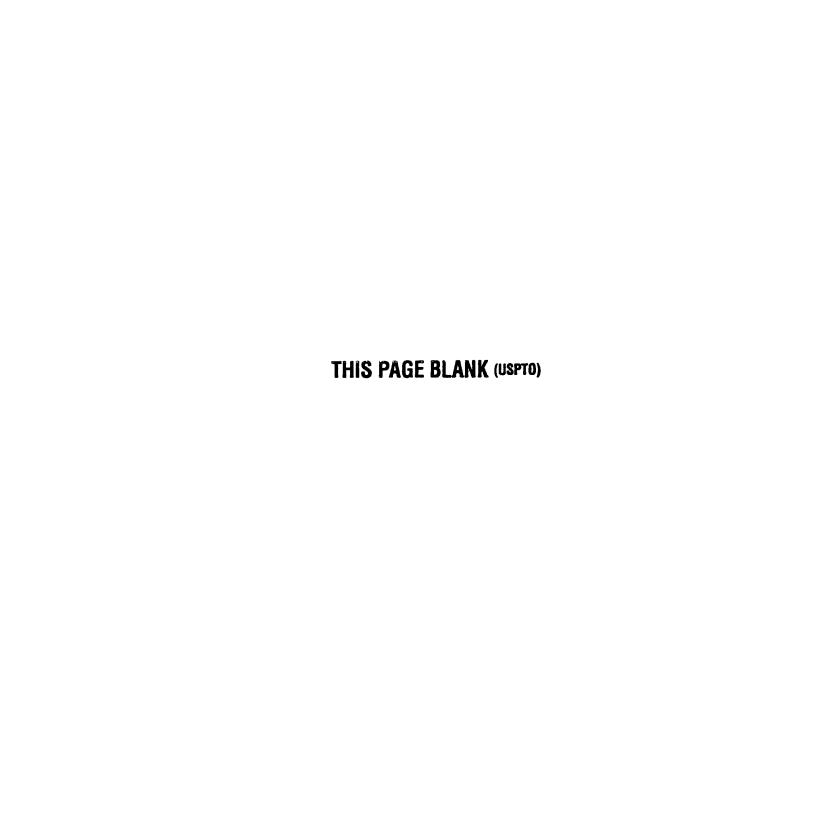
SNOKINVLKLQL-GTKPPANAPSDLTLGNEMPKYGYQGSW-KLAWDPNTANNGPYTLKAT 691

WTKTGYNPGPERVASLVPNSLWGSILDIRSAHSAIQASVDGRSYCRGLWVSGVSNFFYHD

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34;
                                                STKTRRGFRHLSGGYVIGGNLHTCSDKILSAAFCQLFGRDRDXFVAKNQ-----GTVYGG 708
                                                                                                                                763
                                                                                                                                                                906
                                                                                                                                                                                                 822
                                                                                                                                                                                                                                                     |:||::||:||:||:||SELVILALPIGIREDCQDATYNLILGYTVDLVRSNPDCTTTLRIBGDSWKIFGINL 882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention describes a vaccine (I) for the immunisation of an animal against Chlamydia psittaci comprising at least one polynucleotide (Ia) having a C. psittaci sequence, or at least one C. psittaci antigen (Ib), and a carrier. (Ia) and (Ib) have antibacterial activity. (I) is useful for the immunisation of a bovine. The present sequence represents a C. psittaci antigen from the present invention. (Updated on 29-AUG-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chlamydia
WTKTGYIPNPERIGSLVPNSLWNAFIDISSLHYLMETANEGLQGDRAFWCAGLSNFFHKD
                                                                                                                              TLY-----YQHNETYISLPCKLRPCSLSYVPTBIPVLPSGNLSYTHTDNDLKTKYTTYPT
                             RDALGQGYRYI SGGYSLGANSYPGS-SMPGLAPTEVPGRSKDYVVCRSNHHACIGSVYLS
                                                                                                 ---RASYGPGNQHMKTSYTFAEE
                                                                                                                                                                847 SDVRWDNNCLAGEIGAGLPIVITPSKLYLNELRPFVQABFSYADHESFTEEGDQARAFKS
                                                                                                                                                                                               764 VKGSWGNDSPALEFGGRAPICLDBSALF-BOYMPFMKLQFVYAHQEGFKEQGTEAREFGS
                                                                                                                                                                                                                                GHLLNLSVPVGVKFDRCSSTHPNKYSPMAAYICDAYRTISGTETTLLSHQBTWTTDAFHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vaccine for immunization of animal, preferably bovine, against Chlam, psittaci, comprises at least one polynuclectide having a C. psittaci sequence, or at least one C. psittaci antigen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         antigen; immune response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels 236;
                                                                                                                                                                                                                                                                                                  967 ARHGVVVRGSMYASLTSNIBVYGHGRYEYRDASRGYGLSAGSRVRF 1012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 926;
                                                                                                                                                                                                                                                                                                                       | | : | : | | : | : | | : | | : | | ARQALVLRAGNHFCFNSNFRAFSQFSFELRGSSRNYNVDLGAKYQF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chlamydia psittaci antigen CP4#12 protein SEQ ID NO:57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kaltenboeck
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 21.3%; Score 1122; DB 5; 3
Best Local Similarity 29.7%; Pred. No. 2.6e-68;
Matches 323; Conservative 152; Mismatches 376;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chlamydia psittaci; vaccination; vaccine; immunisation; antibacterial; infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sykes KF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 9; Page 158-161; 164pp; English.
                                                                                               TOGALCGSYLPGDAFI
                                                                                                                                                                                                                                                                                                                                                                                                                     ABP56019 standard; protein; 926
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1 MQTSFHKFFLSMILAYSCCSLNGGGYAAEIMVPQGIYDGBTLTVSFPYTVI 51 : : : MRPSLYKILISSTLTLPISPHFSQLHAEVALTQB 34	52GDPSGTTVFSAGELTLKNLDNSIAALPLSCFGNLLGSFTVLGRGHS 97 15		158 TPSNGTIYSKTDLLLLANBKFSPYSNLVSGDGGAIDAKSLTVQGISKLCVPQENTAQADG 217	218 GACQVVISFSAMANEAPIAFVANVAGVRGGGIAAVQDGQGGVSSSISTEDPVVSFSRNTA 277	278 VEPDGNVARVGGGIYSYGNVAFLANGKTLFLNNVASPVYIAAKQPTSGQASNTSNNYGDG 337 221 VNSGGAVYSEASMTIAGNNHVAFSNNAVSGSSDGCG 256	338 GAIFCKNGAQAGSNNSGSVSFDGEGVVFPSSNVAAGKGGAIYAKKLSVANCGPVOFLRN- 396 257 GAIHCSKTGSAPTLFIRDNKVLIPEENTSSAKGGAIYTDKLILTSGGFTAFINNK 311	IANDGGAIYLGESGELSLSADYGDIIFDGNLKRTAKENAADVNGVTVSSQALSMGSG	312 VTHATPKGGAIGLAANGECSLIABHGDIIFDNNLAAI-UDNAIIRKNAINLEGN 304 454 GKITTLRAKAGHQILFNDPIEMANGNNOPAQSSKLLKINDGEGYTGDIVFA 504	365 GKFVNLRAASGKTISFYDPITV-EGNAADLLTLMKAEGDKTYNGRIIFSGEKLTE 418	505NGSSTLYQNYTIBQGRIVLREKAKLSVNSLSQTGGSL-YMEAGSTWDFVTPQP 556 419 EQAAVADNLKTTFTQPITLAAGELVLRSGVEVEAKTVVQTAGSLILMDAGT 469	557 PQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAODSHP-AVIGSTTAG-SVTISG 614		615 PIPPEDLDDTAYDRYGNYDWLGSNQKINVLKKQLGTKPPANAPSDLTLGNEMPKYG 667 512 ALGVIDPTGKPYENHKLNDTLALGGIQLSGKGSVTTTNVPSHV-VGVAETHYG 563	YQGSWKLAWDPNTANN : :: : : VQCNIASUSWIKIN-NS	IQASVDG-RSYCRGLWVSGVSNFFYHDRDALGGGYRY ISGGYSLGANSYFG-SSMFGLAP	::	784 TEVPGRSKDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDAF 825			886 FSYADHESFTEEGDQARAFKSGHILMLSVPVGVKFDRCSSTHPNKYSFMAAYICDAVRII 945	800 VVÝAHQDDFKEPTTEGRVFESSDLLNVSVPIGIKFEKLSYGERSAYDLTLMYIPDVÝRHN 859	946 SGTETTLLSHQETWTTDAFHLARHGVVVRGSMYASLTSNIEVYGHGRYEYRDASRGYGLS 1005	860 PSCMTGLAINDVSWLTTATNLARQAFIVRAGNHIALTSGVEMFSQFGFELRSSSRNYNVD 919
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OY 1006 AGSRVRF 1012 | | | | | Db 920 LGARVAF 926 Search completed: May 13, 2006, 12:15:00 Job time : 200 8ecs



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GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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OM protein - protein search, using sw model

Run on:

May 13, 2006, 12:17:59 ; Search time 47 Seconds (without alignments) 2071.731 Million cell updates/sec

US-10-701-844-2 5267 1 MQTSFHKFFLSMILAYSCCS......YEYRDASRGYGLSAGSRVRF 1012 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283416 Total number of hits satisfying chosen parameters:

283416 segs, 96216763 residues

Searched:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR_B0:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

		*			SUMMAKIES	-
Result No.	Score	Query Match	Query Match Length	DB	ID	Description
-	5131.5	97.4	1013	7	G71460	probable outer mem
N	3845	73.0	987	~	H81722	polymorphic membra
m	1365.5	25.9	973	~	B86547	polymorphic outer
4	1365.5	25.9		~	P72076	_
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9	1101	20.9		~	G86546	_
7	1101	20.9	928	~	G81591	polymorphic membra
80	1090	20.7	928	~	D72077	polymorphic outer
σ	1090	20.7	928	~	H86546	polymorphic outer
10	1090	20.7	949	~	F81591	polymorphic membra
11	1083	20.6		~	D86546	-
12	1083	20.6		7	A81591	polymorphic membra
13	1079	20.5		7	D72078	-
14	1041	19.8		7	C72078	_
15	1040	19.7	936	~	B81591	polymorphic membra
16	1040	19.7	936	~	C86546	_
17	1021	19.4	928	~	B72077	polymorphic membra
18	1021	19.4	928	7	E86546	polymorphic outer
19	1012	19.2		~	B86546	polymorphic outer
20	1012	19.2	1276	~	C81591	
21	985.5	18.7		~	B72078	polymorphic outer
22	978.5	18.6		7	H86492	Pmp_3 [imported] -
23	196	18.4		~	B72131	polymorphic outer
24	196	18.4		~	E86491	
25	996	18.3		~	F81539	polymorphic membra
26	939.5	17.8		~	B72130	polymorphic membra
27	789	15.0	1 867	7	F81721	polymorphic membra
28	771.5	14.6	878	~	B71460	probable outer mem
29	703	13.3	712	7	E86492	polymorphic outer

polymorphic outer	polymorphic outer	polymorphic membra	polymorphic membra	probable outer mem	polymorphic outer	polymorphic membra	probable outer mem	polymorphic outer	polymorphic membra	polymorphic outer	polymorphic membra	polymorphic membra	polymorphic membra	probable outer mem	Pmp_5 (imported) -
G72076	C86547	B81593	F81722	B71460	F86548	H72074	H71460	C86549	D81594	C72075	A81731	G86557	D72067	H71468	E86493
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693.5	688.5	688.5	679.5	649.5	644	644	615	609	609	607	601	598.5	598.5	597.5	591.5
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

RESULT 1 G71460 probable outer membr: C;Species: Chlamydia C;Species: 13-Sep-1998 C;Accession: G71460 R;Stephens, R.S.; Ka;Scpence, 282, 754-759 A;Itle: Genome seque A;Reference number: A;Accession: G71460 A;Status: preliminar: A;Accession: G71460 A;Residues: 1-1013 A;Rosereferences: A;Eross-references: A;Genetics: C;Genetics: A;Genetics:	ane protein G - Chlamydia trachomati trachomatis #sequence_revision 13-Sep-1998 #text #man, S.; Lammel, C.J.; Fan, J.; Mar 9, 1998 Jence of an obligate intracellular pa A71570; MUID:99000809; PMID:9784136 TY TY TY TY TY TY TY TY TY TY TY TY TY
Query Mat Best Loca Matches	Query Match Best Local Similarity 97.0%; Pred. No. 8.6e-304; Matches 983; Conservative 18; Mismatches 11; Indels 1; Gaps 1;
è 8	1 MOTSFHKFFLSMILAYSCCSLNGGGAABIMVPQGIYDGFTLTVSFPYTVIGDPSGTTVF 60
<i>≿</i> 8	61 SAGELTLKNLDNSIAALPLSCFGNLLGSFTVLGRGHSLIFENIRTSTNGAALSNSAADGL 120
	121 FTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTDLLLLANBKFSF 180
\$ 8 	181 YSNLVSGDGGAIDAKSLTVQGISKLCVFQENTAQADGGACQVVTSFSAMANEAPIAFVAN 240
& A	241 VAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEFDGNVARVGGGIYSYGNVAFL 300 241 VAGVRGGGIAAVQDGQQGVSSSTSTEDFVVSFSRNTAVEFDGNVARVGGGIYSYGNVAFL 300
& a	301 NNGKTLFLANVASPVYIAAKQPTSGQASNTSNNYGDGGALFCKNGAQ-AGSNNSGSVSFD 359
	360 GEGVVFFSSNVAAGKGAIYAKKLSVANCGPVQFLENIANDGGAIYLGESGELSLSADYG 419
ò	420 DIIFDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMANGN 479

Db 119 FVIEAPDELSLIACASLVSVVPQTGGTTTSVPSNGTIYSRTDLVLRDIKKVS 170	Qy 180 FYSNLVSGDGGAIDAKSLTVQGISKLCVPQRNTAQADGGACQVVTSFSAMANRAPIAFVA 239	Qy 240 NVAGVRGGGIAAVQDGQQGVSSTSTEDPVVSPSRNTAVEPDGNVARVGGGIYSYGNVAF 299 [: :	QY 300 LINIGKTLFLANVASPVYIAAKQPTSGQASNTSNNYGDGGAIFCKNGAQAGSNNSGSVS 357	Qy 358 PDGEGVVPFSSNVAAGRGGAIYAKKLSVANCGPVQFLRNIANDGGAIYLGESGELSLSAD 417	Qy 418 YGDIIFDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMAN 477	OY 478 GNNQPAQSSKLLKINDGRGYTGDIVFANGSSTLYQNVTIRQGRIVLREKAKLSVNSLSQT 537	QY 538 GGSLYMEAGSTWDFVTPQPPQQPPAANQLITLSNLALGSBLLANNAVTNPPTNPPAQDS 597	QY 598 HPAVIGSTTAGSVTISGPIFFEDLDDTAYDRYDWLGSNQKINVLKLQLGTKPPANAPSDL 657	Qy 658 TLGNEMPKYGYQGSWKLANDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLMG 714	Qy 715 SILDIRSAHSAIQASVDGRSYCRGLWVSGVSNPFYHDRDALGGGYRYISGGYSLGANSYP 774	Qy 775 GSSMFGLAFTEVFGRSKDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDAFIRASYGFGN 834	Qy 835 QHMKTSYTFABESDVRWDNNCLAGEIGAGLPIVITPSKLYLNBLRPFVQABFSYADHSSF 894	Qy 895 TEBGDQARAFKSGHLLMLSVPVQVKFDRCSSTHPNKYSPMAAYICDAYRTISGTETTLLS 954	Qy 955 HQETWITDAFHLARHGVVVRGSMYASIJBNIBVYGHGRYEYRDASRGYGLSAGSRVRF 1012	RESULT 3 B86547 polymorphic outer membrane protein G family [imported] - Chlamydophila pneumoniae (straiic) polymorphic outer membrane protein G family [imported] - Chlamydophila pneumoniae, Cispecies: Chlamydophila pneumoniae, Cispecies: Chlamydophila pneumoniae, Cispecies: Chlamydophila pneumoniae, Cispecies: Chare-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004 CiAccession: B86547 R;Shirai, M.; Hirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, T.; Isi Muciaic Acids Res. 28, 2311-2314, 2000 A;Title: Comparison of whole genome sequences of chlamydia pneumoniae J138. A;Reference number: A86491; MUID:20330349; PMID:10871362 A;Accession: B86547 A;Accession: preliminary A;Molecule type: DNA
	480 NQBAQSSKLIKINDGBGYTGDIVPANGSSTLYQNVTIEGGRIVLREKAKLSVNSLSGTGG 539	540 BLYMEAGSTWDEVTPQPPQQPPAANQLITLSNLHLSLGSLLANNAVTNPPTNPPAQDSHP 599	600 AVIGSTTAGSVTISGPIPPRDLDDTAYDRYDRYDRINVLKIQIGTKDPANABSDLTL 659 	660 GNEMPKYGYQGGWALANDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLMGSILDI 719 	720 RSAHSAIQASVDGRSYCRGLMVSGVSNFFYHDRDALGQGYRYISGGYSLGANBYFGSSMF 779 	780 GLAFTEVFGRSKDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDAFIRASYGFGNQHMKT 839 	840 SYTFARESDVRWDNNCLAGRIGAGLPIVITPSKLYLNRLRPFVQARFSYADHESFTERGD 899	900 QARAFKGGHLIALSVPVGVKFDRCSSTHPNKYSFWAAYICDAYRTISGTETTLLSHQETW 959 : :	960 TTDAFHLARHGVVVRGSHYASLTSNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012	•	(Brrain Ni	Rifead, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg, Nucleic Acids Res. 28, 1397-1406, 2000 A;Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39.		7 <tet> BB: UNIPROT:Q9PL45; UNIPARC:UPI000057867; GB:AE002293; GB:AE002160; NIL ource: strain Nigg (MoPn)</tet>	Query Match 73.0%; Score 3845; DB 2; Length 987; Best Local Similarity 72.6%; Pred. No. 1.3e-225; Indels 38; Gaps 13; Matches 739; Conservative 105; Mismatches 136; Indels 38; Gaps 13; I MCTSFHKPFLSMILAYSCCSLNGGYAARINVPGIYDGETLTVSFPYTVIGDPSGTTVP 60 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII

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A; Accession: F72076
A; Status: preliminary
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  A;Residues: 1-973 <STO>
A;Cross-references: UNIPROT:092896; UNIPARC:UPI000004707B; GB:BA000008; NID:g8978824;
A;Cross-references: strain J138
C;Genetimental source: strain J138
C;Genetimental source: strain J138
C;Genetimental source: strain J13
C;Superfamily: Chlamydophila pneumoniae polymorphic outer membrane protein G
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                                                                             Query Match 25.9%; Score 1365.5; DB 2; Length 973; Best Local Similarity 33.5%; Pred. No. 5.8e-75; Matches 350; Conservative 171; Mismatches 420; Indels 103;
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A;Molecule type: DNA
A;Residues: 1-973 <ARN.
A;Cross-references: UNIPROT:Q92896; UNIPARC:UP1000004707B; GB:AE001629; GB:AE001363; NI<sup>1</sup>
A;Experimental source: strain CWL029
                                                                                                                                                                                                                                                                                                                                                                   polymorphic outer membrane protein g family - Chlamydophila pneumoniae (strain CML029) polymorphic outer membrane protein g family - Chlamydophila pneumoniae (species: Chlamydophila pneumoniae, Chlamydia pneumoniae (species: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004 (shacession: F72076 (shacession: F72076 (shadan, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J Nature Genet. 21, 385-389, 1999 (shadan) shiftle: Comparative genomes of Clamydia pneumoniae and C. trachomatis.
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                                                         NKYSFMAAYICDAYRTISGTETTILLSHQETWTTDAFHLARHGVVVRGSMYASLTSNIEVY
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A,Gene: pmp_13
C,Superfamily: Chlamydophila pneumoniae polymorphic outer membrane
C,Superfamily: Length 973;
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RESULT 6
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G901/morphic outer membrane protein G family [imported] - Chlamydophila pneumoniae polymorphic outer membrane protein G family [imported] - Chlamydophila pneumoniae (Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Accession: G86546
R;Shirai, M; Hirakawa, H; Kimoto, M; Tabuchi, M; Kishi, P; Ouchi, K; Shiba, Nucleic Acids Res. 28, 2311-2314, 2000
A;Title: Comparison of whole genome sequences of chlamydia pneumoniae J138.
A;Accession: G86546
A;Accession: G86546
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C81593
polymorane protein G family CP0299 [imported] - Chlamydophila pneumoniae (stra polymorphic membrane protein G family CP0299 [imported] - Chlamydophila pneumoniae, Clamydia pneumoniae, Chlamydophila pneumoniae, Claccassion: C81593
C; Accassion: C81593
R; Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg, Nucleic Acids Res. 28, 1397-1406, 2000
A; Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39.
A; Accession: C81593
A; Reference number: A81500; MUID:20150255; PMID:10684935
A; Residues: preliminary
A; Molecule type: DNA
A; Residues: 1-995 <RRA>
A; Residues: 1-995 <RRA>
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25.9%; Score 1365.5; DB 2; Length 995;
Best Local Similarity 33.5%; Pred. No. 6e-75;
Matches 350; Conservative 171; Mismatches 420; Indels 103;
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A,Cross-references: UNIPROT:Q9RB65; UNIPARC:UPI000002FPF0; GB:BA000008; NID:g8978821;
A,Experimental source: strain J138
C,Genetics:
A,Gene: pmp 10
C,Superfamily: Chlamydophila pneumoniae polymorphic outer membrane protein G
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                                                                                                                           1 MQTSFHKFFLSMILA-YSCCSLNGGGYAARIMVPQGIYDGBTLTVSFPYTVIGDPSGTTV
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                                                                            Query Match 20.9%; Score 1101; DB 2; Length 928; Best Local Similarity 30.5%; Pred. No. 6.4e-59; Matches 324; Conservative 150; Mismatches 402; Indels 188;
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polymorphic membrane protein G family CP0303 [imported] - Chlamydophila pneumoniae (stra C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae (c;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004 (c;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004 (c;Accession: G81591 R.R.; Shen, C.; Gill, S.R.; Heidelberg, J.P.; White, O.; Hickey, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg, Nucleic Acids Res. 28, 1397-1406, 2000 A;Fitle: Genome sequences of Chlamydia trachomatis Mopn and Chlamydia pneumoniae AR39.
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A;Status: prelimnary
A;Status: prelimnary
A;Residues: 1-928 <REA>
A;Residues: 1-928 <REA>
A;Cross-references: UNIPROT:Q9RB65; UNIPARC:UPI000002FFF0; GB:AE002192; GB:AE002161; NIC
A;Experimental source: strain AR39, HL cells
C;Genetics:
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polymorphic outer membrane protein g family - Chlamydophila pneumoniae (strain CWL029)

Cispecies: Chlamydophila pneumoniae, Chlamydia pneumoniae

Cispecies: Chlamydophila pneumoniae, Chlamydia pneumoniae

Cispecies: Chlamydophila pneumoniae, Chlamydia pneumoniae

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Rixalman, 8.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.;

Rixalman, 8.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.;

Rixalman, 8.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.;

A; Title: Comparative genomes of Clamydia pneumoniae and C. trachomatis.

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20.7%; Score 1090; DB 2; Length 928;
Best Local Similarity 28.8%; Pred. No. 3e-58;
Matches 311; Conservative 154; Mismatches 394; Indels 222;
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           A)Accession: H86546
A)Status: preliminary
A)Molecule type: DNA
A)Residues: 1-928 ASTO>
A)Cross-references: UNIPROT:O86164; UNIPARC:UPI000002FEBF; GB:BA000008; NID:g8978822;
A)Experimental source: strain J138
C)Genetics pnp 11
C;Superfamily: Chlamydophila pneumoniae polymorphic outer membrane protein G
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                                                                                                                                                                                    1 MQTSFHKPFLSMILAYSC--CSLNGGGYAARIMVPQGIYDGETLTVSF-----PYTVI
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                                                                                                                                                              Gaps
                                                                                                                                   Query Match
20.7%; Score 1090; DB 2; Length 928;
Best Local Similarity 28.8%; Pred. No. 3e-58;
Matches 311; Conservative 154; Mismatches 394; Indels 222;
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A; Reference number: A86491; MUID: 20330349; PMID: 10871362
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polymorphic membrane protein G family CP0302 [imported] - Chlamydophila pneumoniae (str C; Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C; Spate: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 15-Jun-2001
C; Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 15-Jun-2001
C; Accession: P81591
R; Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg Nucleic Acids Rese. 28, 1397-1406, 2000
A; Richie: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39.
A; Reference number: A81500; MUD:20150255; PMID:10684935
A; Accession: P81591
A; Accession: P81591
A; Residues preliminary
A; Residues: 1-949 - CRAA.
A; Residues: 1-949 - CRAA.
A; Residues: 1-949 - CRAA.
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A; Residues: 1-949 - CRAA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGIYSYGNVAFLNNGKTLFLNNVASPVYIAAKQPTSGQASNTSNNYGDGGAIFCKNGAQA 348
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                                                                                                                                                                                                                         ESFTEEGDQARAFKSGHILMLSVPVGVKFDRCSSTHPNKYSFMAAYICDAYRTISGTETT 951
DCFIAHNNSRTYGGTLFFKHSHTLQPQNYLRLGRAKFSESAIEKFPREIPLALDVQVSFS 747
                                                                             891
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                                                                                                                                                                                                                                                                                               808 NSFFESSSDGRGFSIGRLINLSIPVGAKFVQGDIGDSYTYDLSGFFVSDVYRNNPQSTAT
                                                                         832 FGNOHMKTSYTFARESDVRWDNNCLAGRIGAGLPIVITPSKLYLNBLRPFVQARFSYADH
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120 LFTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTT---STPSNGTIYSKTDLLLLNNE 176
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QRGLWASGTANFFHKDKSGTNQAFRHKSYGYIVGGSAEDFSENIFSVAFCQLFGKDKDL 698
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     60 FSAGELTLKNLDNSIAALPLSCFGNLLGSFTVLGRGHSLTFENIRTSTNGAALSNSAADG
                                                                                 177 KFSFYSNLVSGDGGAIDAKSLTVQGISKLCVFQENTAQADGGACQVVTSFSAMANEAPIA
                                                                                                                                                                                                                             ----SNEANNNGGAITAKTLSISGNTSSITFTSNSAKKLGGAIYSSAAASISGNTGQLV
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D86546
polymorphic outer membrane protein G family [imported] - Chlamydophila pneumoniae (strai polymorphic outer membrane protein G family [imported] - Chlamydophila pneumoniae, Chlamydia pneumoniae
C; Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C; Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 15-Jun-2001
C; Accession: D86546
R; Shirai, M.; Hirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, T.; Is
Nucleic Acids Res. 28, 2311-2314, 2000
A; Title: Comparison of whole genome sequences of chlamydia pneumoniae J138.
A; Accession: D86546
A; Accession: D86546
A; Readuces: preliminary
A; Molecule type: DBA
A; Readuces: UNIPARC: UPI00001655FB; GB: BA000008; NID: G8978818; PIDN: BAA98654.1; GA; Cross-references: UNIPARC: UPI0001655FB; GB: BA000008; NID: G8978818; PIDN: BAA98654.1; GA; Ganatics:
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                                                                                           RAAKNHTIPFYDPI - - - - - TSEGTSSDVLKINNGSAGALNPYQGTILFSGETLTADELK
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20.6%; Score 1083; DB 2; Length 930;
Best Local Similarity 28.4%; Pred. No. 8e-58;
Matches 304; Conservative 160; Mismatches 406; Indels 202;
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Rikalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J., Nature Genet. 21, 385-389, 1999
A,Title: Comparative genomes of Clamydia pneumoniae and C. trachomatis.
A,Reference number: A72000; MUID:99206606; PMID:10192388
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A;Cross-references: UNIPROT: Q92393; UNIPARC: UPI000004708C; GB:AE001627; GB:AE001363; NI:
A;Experimental gource: strain CML029
C;Genetics:
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C;Superfamily: Chlamydophila pneumoniae polymorphic outer membrane protein
699 FIVENTSHNYLASLYLQHRAFLGGLPMPSFGSITDMLKDIPLILNAQLSYSYTKNDMDTR
                                                                                                                                                                                                                                                                                                                                                                                                                                         735 YCRGLWVSGVSNPPYHDRDALGQGYRYISGGYSLGANSY-FGSSMFGLAFTEVFGRSKDY
                                                                                                                                                       794 VVCRSNHHACIGSVYLSTQQALCGSYL--FGDAF-----IRASYGFGNQHMKTS
                                                                                                                                                                                                                                                                                                                                                                                                 YTFAEESDVRWDNNCLAGEIGAGLPIVITPSKLYLNELRPFVQABFSYADHESFTEEGDQ
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20.5%; Score 1079; DB 2; Length 930;
Best Local Similarity 28.3%; Pred. No. 1.4e-57;
Matches 303; Conservative 160; Mismatches 407; Indels 202;
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                                        polymorphic membrane protein G family CP0307 [imported] - Chlamydophila pneumoniae (stra C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Species: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004
C;Accession: Asi359:
R;Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey,
C.; Dodson, R.; Gwinn, M.; Malson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg,
Nucleic Acids Res. 28, 1397-1406, 2000
A;Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39.
A;Reference number: A81500; MUID:20150255; PMID:10684935
A;Accession: A81591
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-930 <REA
A;Coss-references: UNIPROT:Q9Z393; UNIPARC:UPI00001655FB; GB:AE002193; GB:AE002161; NID
A;Experimental source: strain AR39, HL cells
C;Genetics:
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117 DKNLLFNDFSRLSIISCPSLLL-----SPT-----GQCALKSVGNLSLTGNSQ 159
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polymorphic outer membrane protein g family - Chlamydophila pneumoniae (strain CWL029)
C; Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C; Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004
C; Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004
C; Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004
C; Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004
R; Kalman, 8:, Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.;
Nature Genet. 21, 385-389, 1999
A; Title: Comparative genomes of Clamydia pneumoniae and C. trachomatis.
A; Accession: C72078
A; Status: preliminary
A; Accession: C72078
A; Status: preliminary
A; Residues: 1-356 cARN>
A; Residues: 1-356 cARN>
A; Cross-references: UNIPROT: Q92898; UNIPARC: UP10000470BC; GB:AE001627; GB:AE001363; NIC
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Db 591 -IGSINWTRIGYIPSPERKSNLPLANSLWGNPIDIRSINQLIETKSSGEPFERELWLSGIA 649 Qy 746 NFFYHDRDALGGGYRYISGGYSLGANSYF-GSSMFGLAFTEVFGREXDYVCRSNHHACI 804 (b) 650 NFFYRDSMPTRHFRISGGYALGITATTPAEDQLIFFFCQLFARDRNHITGKNHGDTYG 709 650 NFFYRDSMPTRHFRISGGYALGITATTPAEDQLIFFFCQLFARDRNHITGKNHGDTYG 709 (c) 650 NFFYRDSMPTRHFRISGGYALGITATTPAEDQLIFFFCQLFARDRNHITGKNHGDTYG 709 (d) 651 NFFYRDSMPTRHFRISGGYALGITATTPAEDQLIFFFCQLFARDRNHITGKNHGDTYG 709 (e) 651 NFFYRDSMPTRHFRISGGYALGITATTPAEDQLIFFFCQLFARDRNHITGKNHGDTYG 709 (d) 652 NFFHHTEGLFDIANFLWGKATRAPWLLSRISQIIPLSFDAKFSYLHTDNHWKTYTT 767 (d) 768 DNSIIKGSWRNDAPCADLGASLPFVITYSKLYLNELRFFVQARFSYLHTDNHWKTYTT 767 (d) 768 DNSIIKGSWRNDAPCADLGASLPFVITSVTLAFTIGTFTTLISHQETWTTD 962 (e) 903 AFKSGHLINLSVPVGVKFDRCSSTHPNKYSFMAAYICDAYRTISGTETTLISHQETWTTD 962 (f)	RESULT 16 C96546 polymorphic outer membrane protein G family [imported] - Chlamydophila pneumoniae C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004 C;Accession: C86546 R;Shirai, M.; Hirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, T.; I. Nucleic Acids Res. 28, 2311-2314, 2000 A;Title: Comparison of whole genome sequences of chlamydia pneumoniae J138. A;Reference number: A86491; MUID:20330349; PMID:10871362 A;Accession: C86546 A;Status: preliminary A;Accession: C86546 A;Status: DNA A;Residues: 1-936 <sto> A;Cross-references: UNIPROT:Q92898; UNIPARC:UPI0000131CED; GB:BA000008; NID:g8978817; P A;Experimental source: strain J138 C;Genetics: A;Gen</sto>	Query Match	Seabul Indo
B81591 B01591 B020 ymorphic membrane protein G family CP0308 [imported] - Chlamydophila pneumoniae (stragolymorphic membrane protein G family CP0308 [imported] - Chlamydophila pneumoniae C; Species: Chlamydophila pneumoniae, Chlamydia pneumoniae C; Species: Chlamydophila pneumoniae, Chlamydia pneumoniae C; Accession: B81591 R; Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg, Nucleic Acids Res. 28, 1397-1406, 2000 A; Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39. A; Reference number: A81500; MUID:20150255; PMID:10684935 A; Residues: preliminary A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea> A; Molecule trype: DNA A; Residues: 1-936 <rea 1-936="" 1-946,="" <rea="" a;="" dna="" fred="" m<="" molecule="" residues:="" td="" trype:=""><td>TSFHKPPLSMILAYSCCSLNGGGYAAEIMV1 : </td><td>196FIGALGOVVIAIGITITENS POLYAS PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA</td><td>Oy 686 YTLKATWTKTGYNPGPERVASLVPNSLWGSILDIRSAHSAIQASVDGRSYCRGLWVSGVS 745</td></rea></rea></rea></rea></rea></rea></rea></rea></rea></rea></rea></rea></rea></rea></rea></rea></rea></rea></rea></rea></rea></rea></rea>	TSFHKPPLSMILAYSCCSLNGGGYAAEIMV1 :	196FIGALGOVVIAIGITITENS POLYAS PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA PARALES BANDA	Oy 686 YTLKATWTKTGYNPGPERVASLVPNSLWGSILDIRSAHSAIQASVDGRSYCRGLWVSGVS 745

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R; Kalman, S:; Mitchell; M:; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.; Nature Genet. 21, 385-389, 1999

A; Reference number: A72000; MUID:99206606; PMID:10192388

A; Reference unuber: A72000; MUID:99206606; PMID:10192388

A; References: UNIPROT: C92398; UNIPARC: UP10000047087; CB:AE001628; GB:AE001363; NID

A; Readcassion: B72077

A; Robiecule type: DNA

A; Resterences: UNIPROT: C92398; UNIPARC: UP10000047087; CB:AE001628; GB:AE001363; NID

A; Readcassion: B72077

A; Robiecule type: DNA

A; Resterences: UNIPROT: C92398; UNIPARC: UP10000047087; CB:AE001628; GB:AE001363; NID

A; Resterences: UNIPROT: C92398; UNIPARC: UP10000047087; GB:AE002161; NID:G7189226; PIDN:

A; Resterences: NUMPARC: UP10000047087; GB:AE002161; NID:G7189226; PIDN:
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                                                    ELSLSADYGDIIFDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFN 470
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                                                                           DPIEMANGNNOPAQSSKLLKINDGEG----YTGDIVF-----ANGSSTLYQ
                                                                                                                                                                                                                                      PAVLARGDLVILRDGVTVTFKDLTQSPGSRILMDGGTTLS------AKEANLSLNG
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                                                        19.4%; Score 1021; DB 2; Length 928;
llarity 29.5%; Pred. No. 4.7e-54;
Conservative 161; Mismatches 404; Indels 18
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셤	265 LALTGNTQVLFQENKTTGSAAQANNPEGCGGAICCYLATATOKTGLAISQNQEMSFTSNT 324	polymorphic membrane prot
Š	185 VSGDGGAIDAKSLIVGGISKLCVFQENTAQAD-GGACQVVT-SFSAMANEAPIAFVANVA 242	C. Date: 31-Mar-2000 #sequ
q	325 TTANGGAIYATKCTLDGNTTL-TFDQNTATAGCGGAIYTETEDFSLKGSTGTVTFSTNTA 383	Rigead, T.D.; Brunham, R.
ò	243 GVRGGGI 265	, C.; Dodson, R.; Gwinn, Nucleic Acids Res. 28, 13
qq	384 KT-GGALYSKGNSSLTGNTNLLFSGNKATGPSNSSANQEGCGGAILSFLESASVSTKKGL 442	A; Title: Genome sequences A; Reference number: A8150
È	266EDPVVSFSRNTA 292	A/Accession: Csi591 A/Status: preliminary
đ	443 WIEDNENVSLSGNTATVSGGAIYATKCALHGNTTLIFDGNTAETAGGAIYTETEDFTLIG 502	A; Molecule type: DNA A; Residues: 1-1276 < REA>
ઠે	293 SYGNVAFLNNGKTLPLNNVASPVYIAAKQPTSGQASNTSNNYGDGGAIF 341	A; Cross-references: UNIPR A; Experimental source: st
q	503 STGTVTFSTNTAKTAGALHTKGNTSFTKNKALVPSGNSATATATTTTDQSGCGGAIL 559	C;Genetics: A;Gene: CP0309
È	342 CKNGAQAGSNNSGSVSPDGEGVVPFSSNVAAGKGG 376	Query Match
qq	560 CNISESDIATKSLTLTENESLSFINNTAKRSGGGIYAPKCVISGSESINFDGNTAETSGG 619	Hest Local Similarity Matches 339; Conserva
È	CKLSVANCGPVQFLRNIANDGGAIY	OY 38 DGETLIVSFPY
qa	620 AIYBKNLSITANGPVBFTNNSGGKGGAIYIADSGELSLEAIDGDITFSGNRATEGTS 676	Db 36 NGSSGSAAFTA
ઠે	437 DVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMANG478	Cy 98 LIFENIRISTN
ପ୍ର	677 TPNSIHLGAGAKITKLAAAPGHTIYFYDPITWEAPASGGTIEELVINPVVKAI 729	Db 95 LVLQTIALTHD
È	479NNQPAQSSKLLKINDGBGYTGDIVFANGSSTLYQNVTIEQG 519	Qy 139
qa	730 VPPPQPKNGPIASVPVVPVAPANPNTGTIVFSSGKLPSQDASIPANTTTILNQKINLAGG 789	Db 145 NTEGGTATFTD
ò	520 RIVLREKAKLSVNSLAGTGGS-LYMEAGSTWDFVTPQPPQQPPAANQLITLSNLHLSLSS 578	Qy 144 ATTNKGS
අු	790 NVVLKEGATLQVYSFTQQPDSTVFMDAGTTLETTTTNNTDGSIDLKNLSVNLDA 843	Db 205 ANTVOGNSGT
È	579 LLANNAVINPPINPPAQDSHPAVIGSTTAGGVTISGPIFFEDLDDTAYDRYDWLGSNQKI 638	791 YQ
අු	_rħ	Db 265 LALTGNTQVLF
È	639 NVLKIQL-GTKPPANAPSDLTLGNEMPKYGYQGSWKLAWDPNTANNGPYTLKAT 691	Qy 185 VSGDGGAIDAK
g	887 NIPPLDLSSTSGTVNLDDFNPIPSSMAAPDYGYQGSWTLVPKVGAGGKVTLVAE 940	Db 325 TTANGGAIYAT
ò	692 WTXTGYNPGPERVASLVPNSLMGSILDIRSAHSAIQASVDGRSYCRGIWVSGVSNPFYHD 751	Oy 243 GVRGGGI
đ	941 WQALGYTPKPELRATLVPNSLWNAYVNİHSIQQRİATAMSDAPSHPGIWIGGIGNAFHQD 1000	Db 384 KT-GGALYSKG
È	752 RDALGQGYRYISGGYSLGANSYFGSS-MFGLAFTEVFGRSKDYVVCRSNHHACIGSVYLS 810	Oy 266 EDPVVSFS
qq	1001 KOKENAĞFRLİSRĞYIVĞGSMTTPQEYTFAVAFSQLFGKSKDYVVSDIKSQVYAĞS 1056	Db 443 WIEDNENVSLS
È	811 TQQALCGSYLPGDAPIRASYGFGNQHMKTSYTFAE 845	Qy 293 SYGNVAFLNN-
ብ	1057LCAQSSYVIPLHSSLRRHVLSKVLPELPGETPLVLHGQVSYGRNHHNMTTKLANNT 1112	Db 503 STGTVTFSTNT
È	846 ESDVRWDINCLAGEIGAGLPIVITPSKLYINELRPFVQAEFSYADHESFTERGDQARAFK 905	Qy 342 C
ą	1113 GGKSDWDSHSFÅVEVGGSLEVDLNYRYLTSYSPYVKLQVVSVNQKGFQEVAADPRIFD 1170	Db 560 CNISESDIATK
È	906 SGHILALGVPVGVKFDRCSSTHPNKYSFMAAYICDAVRTISGTETTLLSHQETWTTDAFH 965	Gy 377 AIYAKKLSVAN
q	IPMGLTFKHESAKPPSALLLTLGYAVDAYRDHPHCLTS-LTNGTSW	Db 620 AIYSKNLSITA
È	966 LARHGVVVRGSMYASLISNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012	QY 437 DVNGVTVSSQA
a	1230 LSRQAFFAREASGHLKULHGLDCFASGSCELRSSSRSYNANCGTRYSF 1276	

RESULT 20 C81591

otein G family CP0309 [imported] - Chlamydophila pneumoniae (stra a pneumoniae, Chlamydia pneumoniae quence_revision 31-Mar-2000 #text_change 09-Jul-2004 > PROT:Q9Z899; UNIPARC:UPI0000131CEC; GB:AE002193; GB:AE002161; NID strain AR39, HL cells R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg, 1397-1406, 2000
es of Chlamydia trachomatis Mopn and Chlamydia pneumoniae AR39.
500; MUID:20150255; PMID:10684935 40; ANCGPVQFLRNIANDGGAIYLGESGELSLSADYGDIIFDGNLKRTAKENAA 436 ------AVLPA 143 ------SSSTST---- 265 SRNTA----- VEPDGNVAR-VGGGIY---- 292 730 VPPPQPKNGPIASVPVVPVAPANPNTGTIVFSSGKLPSQDASIPANTTTILNQKINLAGG 789 DNASVILQKNTSEKDGAAVSAYSIDLAKTITAALLDQNTSIKNGGALCST 204 THE THE THE THE THE TRANSPORT TO THE TRA KSLTVQGISKLCVPQENTAQAD-GGACQVVT-SFSAMANEAPIAFVANVA 242 GONSSILTGNINILIPSGNKATGPSNSSÅNQEGCGGAILSFLESASVSTKKGL 442 I-----GKTLFLNNVASPVYIAAKQPTSGQASNTSNNYGDGGAIF 341 -----KNGAQAGSNNSGSVS------PDGEGVVPFSSNVAAGKGG 376 AISMGSGGKITTLRAKAGHQILFNDPIEM---ANG------ 478 PYTVI GDPSGTTVFSAGELTLKNLDNS I AALPLSCFGNLLGSPTVLGRGHS -----NNOPAQSSKLLKINDGEGYTGDIVP------ANGSSTLYQNVTIEQG 19.2%; Score 1012; DB 2; Length 1276; 25.9%; Pred. No. 2.6e-53; Ative 153; Mismatches 417; Indels 398; Gaps SQT-PITTSTPSNGTIYS----479 8 8

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	RESULT 21 BOTOMOSPHIC COUTER membrane protein g/i family - Chlamydophila pneumoniae (strain CWL029) BOTOMOSPHIC COUTER membrane protein g/i family - Chlamydophila pneumoniae (strain CWL029) C.Species: Chlamydophila preumoniae, Chlamydia pneumoniae C.Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004 C.Accession: B72078 A.Atchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.; Nature Genet. 21. 385-389, 1999 #text_change 09-Jul-2004 A.Atches on mubber: A72000; MUDD:99206606; PMID:10192388 A.Atches on preliminary A.Accession: B72078 A.Access

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Best Local Simi
Matches 295;
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A;Molecule type: DNA
A;Residues: 1-772 <STO>
A;Cross_references: UNIPROT:Q9RB71; UNIPARC:UPI00000CCC33; GB:BA000008; NID:g8978389;
A;Experimental source: strain J138
C;Genetics:
A;Gene: pmp_3_2
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                                                                                                                                                                   240 NVAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEFDGNVARVGGGIYSYGNVAF
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                                                                              DB 2;
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GB:AE001585; GB:AE001363; NID
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                                                                                                                                                                                                                                                                                                                                                                   18.4%; Score 967; DB 2; Length 922;
ilarity 28.0%; Pred. No. 8.9e-51;
Conservative 144; Mismatches 380; Indels 236;
                                                                                                                                                                                                       A;Molecule type: DNA_A;Residues: 1-922 <ARN>
A;Residues: 1-922 <ARN>
A;Cross-references: UNIPROT:0929G5; UNIPARC:UPI000004708A; GB:AE001
A;Experimental source: strain CWL029
C;Genetics:
A;Gene: pmp_1
C;Superfamily: Chlamydophila pneumoniae polymorphic outer membrane
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Db 300 LSISSGGPTLFINNISYANSQNLGGAIAIDTGGBISLSAEKGTITFQGNRTSLPF 354 Qy 438 VNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMANGNNQPAGSSKLLKINDG 494 : :			LMIFHFI FVQABFS :::: FMKLQLV AYRTISG : IPRKDPS	:	, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg, Nocleic Acids Res. 28, 1397-1406, 2000 Nucleic Acids Res. 28, 1397-1406, 2000 A;Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39. A;Reference number: A81500; MUID:20150255; PMID:10684935 A;Accession: R81539 A;Accession: R81539 A;Accession: Pininary A;Molecule type: DNA A;Residues: 1-92-8 CREA A;Residues: 1-92-8 CREA A;Residues: 1-92-8 CREA A;Cross references: UNIPARC:UP1000016560D; GB:AE002237; GB:AE002161; NID:97189684; PIDN	A; Experimental source: strain AR39, HL cells C; Genteics: A; Genteics: A; Genteics: C; Superfamily: Chlamydophila pneumoniae polymorphic outer membrane protein G C; Superfamily: Chlamydophila pneumoniae polymorphic outer membrane protein G C; Superfamily: Chlamydophila pneumoniae polymorphic outer membrane protein G C; Superfamily: Chlamydophila pneumoniae polymorphic No. 1e-50; Best Local Similarity 28.0%; Pred. No. 1e-50; Matches 295; Conservative 143; Mismatches 381; Indels 236; Gaps 32; Ay NVPQGIYDGETLIVSFPYTVIGDPSGTTVFSAGELTLKNLDNSIAALPLSCFGNLLGSFT 90
Db 600 LWGNAVDVRSLMQVQETHASSLQTDRGLWIDGIGNFFHVSASEDNIRYRHNSGGYVLSVN 659 Qy 772 SYFGSSMF-GLAFTEVFGRSKDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDA 824 : : : :	858 GEIGAGLPIVITPSKLYINELRPPVQAEFSYADHEE	Qy 978 YASLTSNIEVYGHGRYEYDASRGYGLSAGSRVRF 1012 Db 888 RYHFNDYTELLCRGSIECRPHARNYNINGSKRRF 922 RESULT 24 886491 polymorphic outer membrane protein G family [imported] - Chlamydophila pneumoniae (straingly contex membrane protein G family [imported] - Chlamydophila pneumoniae (straingly contex membrane protein G family [imported] - Chlamydophila pneumoniae (straingly contex membrane protein G family [imported] - Chlamydophila pneumoniae (straingly contex membrane protein G family [imported] - Chlamydophila pneumoniae (straingly characters of the monta monta contex membrane protein G family [imported] - Chlamydophila pneumoniae (straingly f shear 2001 #sequence revision 02-Mar-2001 #text_change 09-Jul-2004 C; Accession: E86491 R; Shirai, M.; Histakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, T.; Is Nucleic Acids Res. 28, 2311-2314, 2000	of whole genome sequences of chla A86491; MUID:20330349; PMID:10871 Y TO> WIPPROT:Q929G5; UNIPARC:UPI000004 e: strain J138	Query Match 18.4%; Score 967; DB 2; Length 922; Best Local Similarity 28.0%; Pred. No. 8.9e-51; Matches 295; Conservative 144; Mismatches 380; Indels 236; Gaps 32; Qy 31 MVPQGINDGETLTVSFPYTVIGDPSGTTVFSAGELTLANLDNSIAALPLSCFGNLLGSFT 90 1	149 GSQTPTTTSTPENGTIYSKTDLILLINNEKPEYYSNIVSGDGGAIDAKSLTVQGISKLCVF 20 129 -1Q:P	Oy 269 UVSFSRNTAVEPGANVARVGGGIYSYGNVAPLANGKTLFLANVASPVYIAAKQPTSGQAS 328

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LSVANCGPVQPLRNIA----NDGGAIYLGESGELSLSADYGDIIPDGNLKRTAKENAAD 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EGYTGDIVFA-----NGSSTLYQNVTIEQGRIVLREKAKLSVNSLSQTGGS-LYM 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RAGSTWDFVTPOPPQOPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDSHPAVIG 603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               544 VTVTAGDPLPVSPHYGPQGNWKLAWTGTGNKVGEP----PWDKINYKPRPEKEGNLVPNI 599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       771
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STTAG---SVTISGPIF----PEDLDDTAYDRYDWLGSNQKINVLKLQLGTKPPANAP 654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FRYASRNPNVNVGILSRRFLONPLMIFHFLCAYGHATNDMKTDYANFPMVKNSWRNNCWA 767
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497 ANTANKQISVTDSIELISPTGNAYEDLR-----MENSQTPPLLSLE----PGAGGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GSQTPTTTSTPSNQTIYSKTDLLLLNNEKFSFYSNLVSGDGGAIDAKSLTVQGISKLCVF
                                                                                                                                                                          -IGSP--GDIKEQGCLYSKNALALLINNYVVRFEQNQSKTKGGAISGANVTIVGNYDSVSF
                                                                                                                                                                                                                                       QENTAQADGGACQVVTSFSAMANBAPIAFVANVAGVRGGGIAAVQDGQQGVSSSTSTEDP
                                                                                                                                                                                                                                                                                  186 YQNAATFGG-----AIHSSGPLQIAVNQAEIR-------
                                                                                                                                                                                                                                                                                                                              VVSPSRNTAVBFDGNVARVGGGIYSYGNVAFLNNGKTLFLNNVASPVYIAAKQPTSGQAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMANGNNQPAQSSKLLKIN---DG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SDLTLGNEM---PKYGYQGSWKLAMDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LWGSILDIRSAHSAIQASVDGRSYCRGLWVSGVSNFFYHDRDALGQGYRYISGGYSLGAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SYFGSSMF-GLAFTEVFGRSKDYVVCRSNHHACIGSVYLSTQQALCGSYLF----GDA
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                                                                                                        FAGNHHGLYFNNISSGTTKEGAVLCCODPQATARFSGFSTLSF
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A; Molecule type: DNA
A; Residues: 1-641 cARN>
A; Residues: 1-641 cARN>
A; Cross-references: UNIPROT: Q923A1; UNIPARC: UPI00000470B5; GB: AE001586; GB: AE001363; NID
A; Experimental source: strain CWL029
B; Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg, Nucleic Acids Res. 28, 1397-1406, 2000
A; Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: UNIPARC:UPI00000470B5; GB:AE002235; GB:AE002161; NID:g7189672; PIDN:-A;Experimental source: strain AR39, HL cells C;Genetics:

    Chlamydophila pneumoniae (stra

                                                                                                            Olinger, L.; Grimwood,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGK-----AAGK------GGAIAIADSGTLSISG 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SAGELTLKNLDNSIAALPLSCFGN--LLGSFTVLGRGHSLTFENI-RTSTNGAALSNSAA 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DGLFTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTDLLLLINNEK 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          178 FSFYSNLVSGDGGAID-AKSLTVQGISKLCVFQRNTAQADGGACQVVTSFSAMANEAPIA 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FVANVAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVBFDGNVARVGGGIYSYGN 296
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           --ANNKSLS 191
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VAFLANGKTLFLANVASPVYIAAKQPTSGQASNTSNNYGDGGAIFCKNGAQAGSNNSGSV 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       477 NGNNQPAQSSKLLKIN-----DGEGYTGDIVFA-------NGSSTLYQNVTIRQ 518
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polymorphic membrane protein G family CP0761 [imported] - Chlamydophila pner C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004
C;Accession: E72130; 681541
B;Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; C
Nature Genet. 21, 385-389, 1999
A;Title: Comparative genomes of Clamydia pneumoniae and C. trachomatis.
A;Reference number: A72000; MUID:99206606; PMID:10192388
A;Accession: B72130
A;Molecule type: DNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MKIPLRFLLISLVPTLSMSNLLGAATTEELSASNS-FDGTTSTTSFSSKTSSATDGTNYV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 27.0%; Pred. No. 3.6e-49;
Matches 289; Conservative 134; Mismatches 358; Indels 291; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Gene: pmp_2; CP0761
C;Superfamily: Chlamydophila pneumoniae polymorphic outer membrane
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Pred. No. 3.6e-49;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1-841 <REA>
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A; Molecule type: DNJ
A; Residues: 1-841 <1
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probable outer membrane protein I - Chlamydia trachomatis (serotype D, strain UW3/CX) C;Species: Chlamydia trachomatis
C;Species: Chlamydia trachomatis
C;Date: 13-Sep-1998 #sequence_revision 13-Sep-1998 #text_change 09-Ju1-2004
C;Accession: B7460
R;Stephens, R.S.; Kalman, S.; Lammel, C.J.; Fan, J.; Marathe, R.; Aravind, L.; Mitchell Science 282, 754-759, 1998
A;Title: Genome sequence of an obligate intracellular pathogen of humans: Chlamydia tra A;Reference number: A71570; MUID:99000809; PMID:9784136
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A;Molecule type: DNA
A;Molecule type: DNA
A;Rosidues: 1-878 <ARN>
A;Cross-references: UNIPROT:O84882; UNIPARC:UPI0000131CF7; GB:AE001361; GB:AE001273; NI
A;Experimental source: serotype D, strain UW-3/Cx
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     516
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                                                                                                                                                                                                                          262
252 VODGOOGVSSSTSTEDPVVSFSRN-TAVEPDGNVARVGGGIYSYGNVAFLANGKTLFLAN 310
                                                                                                                                                                                                                                                                                                                                                   263 AKEKGGAIYTKHWYLRHNGPVSFVNNSAKLGGAIAIQSGGSLSIIAGGGSVLFQNNSCHF 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                        431 AKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMANGNNQPAQSSKLLK 490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GS-LYMKAGSTWDFVTPQPPQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDS 597
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R;Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, C.; Accession: F81721
R;Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, C.; Dodson, R.; Gwinn, M.; Melson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg, Nucleic Acids Res. 28, 1397-1406, 2000
A;Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39. A;Reference number: A81500; MUD:20150255; PMID:10684935
A;Reference number: A81500; MUD:20150255; PMID:10684935
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A;Reperimental source: strain Nigg (MoPn)
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A;Gene: pmpI
C;Superfamily: Chlamydophila pneumoniae polymorphic outer membrane protein
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                                                                                                                                                                                   Indels 207;
                                                                                                                    Query Match
14.6%; Score 771.5; DB 2;
Best Local Similarity 26.5%; Pred. No. 6.3e-39;
Matches 268; Conservative 145; Mismatches 390;
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A;Cross-references: UNIPARC:UD1000165697; GB:BA000008; NID:g8978386; PIDN:BAA98223.1; G:
A;Experimental source: strain J138
                                                                                                       polymorphic outer membrane protein G family [imported] - Chlamydophila pneumoniae C;Species: Chlamydophila pneumoniae, Chlamydophila pneumoniae, Chlamydophila pneumoniae, Cjaccies: Chlamydophila pneumoniae, Chlamydophila pneumoniae, Cjaccesion: E86492
R;Shirai, M.; Hirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, P.; Ouchi, K.; Shiba, Nucleic Acids Ree, 28, 2311-2314, 2000
A;Title: Comparison of whole genome sequences of chlamydia pneumoniae J138.
A;Teterence number: A66491; MUID:20330349; PMID:10871362
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-712 <STO>
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C;Superfamily: Chlamydophila pneumoniae polymorphic outer membrane protein
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13.3%; Score 703; DB 2; Length 712;
Best Local Similarity 25.1%; Pred. No. 6.7e-35;
Matches 246; Conservative 109; Mismatches 304; Indels 320;
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::	QY 431 AKENAADVNGYTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMANGNNQPAGSSKLLK 490 	QY 491 INDGEGYTGDIVFANGSSTLYQNVTIEQGRIVLREKAKLSVNSLSQT 537	QY 538 G-GSLYMEAGSTWDFVTPQPPQOPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQD 596	QY 597 SHPAVIGSTIAGSVTISGPIFFEDLDDTAYDRYDWLGSNQKINVLKLQLGTKPPANAP 654	QY 655 SDLTLGNEMPKYGYQGSWKLAWDPNTANNGPYTLK 689 i	QY 690 ATWTXTGYNPGPERVASLVPNSLWGSILDIRSAHSAIQASVDGRSYCRGLWVS 742	Qy 743 GVSNFFYHDRDALGQGYRYISGGYSLGANSYFGSSMFGLAFTEVFGR 789 Db 698 AKALGAYVEHTPRQGHEGFSGRYGGYQAALSMV-YTDHTTLGLSFGQLYGK 747	QY 790 SXDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDAFIRASYGFGNQHMK 838	OY 839 TSYTPABESDVRWDNNCLAGEIGAGLPIVITPSKLYLNBLRPFVQABFSYADH 891	QY 892 BSFTEBGDQARAFKSGHILMLSVPVGVKPDRCSSTHPNKYSFWAAYICDAYRT 944	945 ISGTETTLISHQETWITDAFHLARHGVVVRGSMYASLISNIEVYGHGRYEYRDASRGYGL	SNOESTSISGANLRRHGLFVQIHDVVDLTBDTQAFLNYT 1012	Db 971 STGLKSTF 978	RESULT 31 C86547 polymorphic outer membrane protein H family [imported] - Chlamydophila pneumoniae (stra C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae	C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004 C;Accession: C86547 R;Shirai, M.; Hirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, T.; I Nucleic Acids Res. 28, 2311-2314, 2000	A; Title: Comparison of whole genome sequences of chlamydia pneumoniae J138. A; Reference number: A86491; MUID:20330349; PMID:10871362 A; Accession: C86547	A;Nolecule type: DNA A;Nolecule type: DNA A;Residues: 1-978 <sto> A;Residues: UNIPAROT:Q92895; UNIPARC:UPI0000131C83; GB:BA000008; NID:g8978825; P</sto>	C;Genetics: A;Gene: pmp_14 C;Superfamily: Polymorphic membrane protein H family	Query Match 13.1%; Score 688.5; DB 2; Length 978;
: :	Cy 690 ATWTKTGYNPGPERVASLVPNSLWGSILDIRSAHSALQASVDGRSYCRGLWVSGVSNP 747	QY 748 FYHDRDALGGGYRYISGGYSLGANSYF-GSSMFGLAFTEVFGRSKDYVVCRSNHHACIGS 806 : : :	QY 807 VYLSTQQALGGSYLPGDAPIRASYGPGNQHMKTSYTPAEESDVRWDNNCLAGEIGAGLPI 866 :	OY 867 VITPSKLYLMELRPFVQAEFSYADHESPTEEGDQARAFKSGHL 909 ::	OY 910 -LNLSVPVGVKFDRCSSTH 927 DD 694 ELLLKIPAAEDFSK-STLH 711		polymorphic outer membrane protein h family - Chlamydophila pneumoniae (strain CWL029) C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae (c;Species: Chlamydophila pneumoniae, Chlamydia preumoniae (c;Species: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004	Nicesezzon: Vis. Mitchell, W.; Marathe, R.; Lammel, C.; Pan, J.; Olinger, L.; Grimwood, J.; Nature Genet. 21, 385-389, 1999 A; Title: Comparative genomes of Clamydia pneumoniae and C. trachomatis.	A; Accession: G72076 A; Accession: G72076 A; Molecule type: DNA A; Molecule type: DNA	A.Cross-references: UNIRROT:092895; UNIPARC:UPI0000046ABB; GB:AE001629; GB:AE001363; NID A;Experimental source: strain CWL029 C;Genetics:	ic membrane protein H family	Query Match 13.2%; Score 693.5; DB 2; Length 978; Best Local Similarity 25.6%; Pred. No. 40-34; Matches 278; Conservative 147; Mismatches 412; Indels 251; Gaps 42;	QY 45 SPRYIVIGDPSGTTVFSAGELTLKNLDNSIAALPLSCFGNLLGSFTVLGRGHSLTF 100 22 AFAETRLGGNFVPPITNQGESILLTSDFVCSNFLGASFSSSFINSSSNLSLLGKGLSLTF 81	160 119	Qy 161 NGTIYSKTDLLLIANBKPSFYSNLVSGDGGAIDAKSLTVQGISKLCVPQENTAQADGGAC 220 : : : :	QY 221 QVVTSFSAMANEAPIAFVANVAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTA-VE 279	Qy 280 FDGNVARVGGG-IYSYGNVAFLANGKTLFLANVASPVXIAAKQPTSGQASNTSNNYGDGG 338	Qy 339 AIPCRNGAQAGSNNSGSVSFDGEGVVPFSSNVAAGKGGAI 378	Qy 379 YAKKLSVANCGPVQFLRNIANDGGAIYLGESGELSLSADYGDIIFDGNLKRT 430

DD 911 NPHNIVTVVSNQESTSISGANLRRHGLFVQIHDVVDLTEDTQAFLNYTFDGKNGFTNHRV 970 QY 1005 SAGSRVRF 1012 DD 971 STGLKSTF 978	RESULT 32 B81593 polymorphic membrane protein H family CP0298 [imported] - Chlamydophila pneumonic C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae C;Species: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Uul-2004	C. Accession: BB1593 R.Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; R. Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Nucleic Acids Res. 28, 1397-1406, 2000 A. Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae A. Reference number: AB1500; MUID:20156; PMID:10684935	A; Accession: B81593 A; Status: preliminary A; Wolecule type: DNA A; Residues: 1978 < RRA> A; Residues: 1978 < RRA> A; Cross-reference: INVIDENT: 097895. INVIDENT: HDIODOM131783. GB: NFODD	Caroline de la Contra del Contra de la Contra del Contra de la Contra de la Contra de la Contra de la Contra de la Contra de la Contra de la Contra de la Contra de la Contra de la Contra del Contra de la Contra de la Contra de la Contra de la Contra de la Contra de la Contra de la Contra de la Contra de la Contra del Contra de la Contra de la Contra de la Contra de la Contra de l	13.1%; Score 688.5; [milarity 25.5%; Pred. No. 8.; Conservative 148; Mismatche	SGTTVFSAGELTLKNLDN8IAALPLSCFGNLLGSFTVLGRGHSLTF 1 ::		161 NGTIYSKTDLILLINNEKPSFYSNLVSGDGGAIDAKSLTVQGISKLCVPQBNTAQADGGAC 22	221 QVVTSF8AMANEAPIAFVANVAGVRGGGIAAVQDGQGGVS8STSTBDPVVSFSRNTA-VE	169 QPTDSLIVENISQSIKFFGNLANFGSAISSSFTAVVKFINNTATWS 280 FDGNVARVGGG-IYSYGNVAFLANGKTLFLANVASPVYIAAKQPTSGQASNTSNNYGDGG	339	Db 270 AICIPTGTFELKNNQGKCTFSYNGTPNDAGAIYAETCNIVGNQGALLLDSNTAARNGGAI 329 Qy 379 YAKKLSVANCGPVQPLRNIANDGGAIYLGESGELSLSADYGDIIPDGNLKRT 430	Db 330 CAKVIAIQGRCPIEPSRNRAEKGGALFIGPSVGDPAKGTSTLTILASRGNIAFQGNMINT 389 Qy 431 AKENAADVNGVTVSSGGKITTLRAKAGHQILFNDPIEMANGNNQPAGSSKLLK 490	390 491	Db 438 IN-ANGASGSVVFTSKGLSSTELLLPANTTTILLGTVKIASGELKITDNAVVNVLGFATQ 496 Qy 538 G-GSLYMEAGSTWDFVTPQPPPQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQD 596	Db 497 ĠSĠQLTLGSĠGTLGLAŤPTGAPAÅVD-FTIGKLAFDFFSFLKRDFVS 542 QY 597 SHPAVIGSTTAGSVTISGPIFFEDLDDTAYDRYDRLGSNQKINVLKLQLGTKPPANAP 654
Best Local Similarity 25.5%; Pred. No. 8.18-34; Matches 277; Conservative 148; Mismatches 412; Indels 251; Gaps 42; 45 SPPYTVIGDPSGTTVFSAGELTLKNLDNSIAALPLSCFGNLLGSFTVLGRGHSLTF 100 22 AFAETRLGGNFVPPTINGGERILLTSDFVCSNFLGASFSNSFINSSSNLSLLGKGLSLTF 81		120 GLIYGK-DIVPGSIKDLIFTTNRVAYSPASVTISATPAITTV 221 QVVISFSAMANKAPIAFVANVAGVRGGIAAVQDGQQGVSSSTSTEDPVVSFS		339 AIPCKNGAQAGSNNSGSVSPDGRGVVPPSSNVAAGKGGAI	379 YANGLSVANCGPVQPLRNIANDGGIYLGRSGELSLSADYGDIIPDGNLKRT :	/ 431 AKENAADVNGVTV8SQAISMGSGGKITTLRAKAGHQILFNDPIEMANGNNQPAGSSKLLK 490 		7 538 G-GSLYMEAGSTWDFVTPQPPAANQLITLSNIHLSLSSLLANNAVTNPPTNPPAQD 596 497 GSGQLTLGLATPTGAPAAVD-FTIGKLAFDPFSFLKRDFVS 542	597 SHPAVIGSTTAGSVTISGPIFFEDLDDTAYDRYDWLGSNQKINVLKLQLGTKPPANAP 654	655 SDLTLGNEMPKYGYQGSWKLAMDPNTANNGPYTLK 689	690 ATWTKTGYNPGPERVASLVPNSLMGSILDIRSAHSAIQASVDGRSYCRGLMVS 742		790 SKDYVVCRSNHHACIGSVILSTQQALCGSYLFGDAFIRASYGFGNQHMK :	839 TSYTPARESDVRWDNNCLAGEIGAGLPIVITPSKLYLNELRPPVQARPSYADH 891	992 ESFTEEGDQARAFKSGHLLANLSVPVGVKFDRCSSTHPNKYSFWAAYICDAYRT 944	945 ISGTETTLLSHQETWTTDAFHLARHGVVVRGSMYASLTSNIEVYGHGRYEYRDASRGYGL :: : : : : : : : : : : : : : : : : :
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. H family CP0298 [imported] - Chlamydophila pneumoniae (stra
umoniae, Chlamydia pneumoniae
e_revision 31-Mar-2000 #text_change 09-Jul-2004
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n AR39, HL cells
                                                                                                                                                                                                                                                                                                                                Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg, 1406, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                   Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39.
MUID:20150255; PMID:10684935
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TSISGANLRRHGLFVQIHDVVDLTEDTQAFLNYTFDGKNGFTNHRV 970
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SAAETL-TFKNFSSINFT-----STGL 119
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.5%; Pred. No. 8.1e-34;
e 148; Mismatches 412; Indels 251; Gaps
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Db 196 SSPLCLNNSCIQTKTGGKGGAIYVSTSCSFENNNKDLLFIQN 237	QY 284 VARVGGGIYSYGNVAFLANGKTLFLANNVASPVXIAAKQPTSGQASNTSNNYGDGGAIFCK 343	QY 344 NGAQAGSNNSGSVSFDGEGVVFPSSNVAAGKGGAIYAKKLSVANCGPVQFLRNIAN-DGG 402	QY 403 AIYLGESGELSLSADYGDIIFDGNLKRTAKENAADVNGVTVSSQAISMGSGGKIT 457 : :	Qy 458 TLRAKAGHQILENDPIEMANGNNQPAQSSKILKINDGEGYTGDIVFANGSSTLYQ 512	QY 513 NVTIEQCRIVLREKAKLSVNSLSQTGGSLYMEAGSTWDFVTPQPPQQPPAANQL 566	Qy 567 ITLSNLHLSLSSLLANNAVTNPPTNPPAQDSHPAVIGSTTAGSVTISGPIFFEDLD 622	Qy 623 DTAYDRYDWLGSNQKINYLKLQLGTKPPANAPSDLTLGNBMPKYGYGGSW 672 :	Qy 673 KLAWDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGSIL 717 	OY 718 DIRSMARIAQASVORGENTWINDALGOGYRISGOSKIL-ANS 772 Db 684 PATENLANDSSQUELDRPFWGITGGGLGAMAYQEPRKDHPGFEMHTSGYSAGMITGNT 741 OY 773 YFGSSMFGLAFTEVPGR-SKDYVCRSNHHACIGSVILSTQALCGSYLFGDAFIRASYG 831 Db 742 HTFSLRFSGSTYKLHERYSKNYVSSRWYSCQGEMLLACGGGLMLTKLJGLYS 793 OY 812 FGNOHMKTSTYPAEBSDVRWDNNCLAGEIGAGLF
Db 543ASVNAGTKNVTLTGALVLDEHDVTDLYDMVSLQSPVAIP 581	OY 655 SDLTLGNEMPKYGYQGSWKLAWDPNTANNGPYTLK 689	Qy 690 ATWTKTGYNPGPERVASLVPNSLWGSILDIRSAHSAIQASVDGRSYCRGLWVS 742	QY 743 GVSNPPYHDRDALGQGYRYISGGYSLGANSYFGSSNFGLAFTEVFGR 789	790	QY 839 TSYTPAEESDVRWDNNCLAGEIGAGLPIVITPSKLYLNELRPPVQAEFSYADH 891	892	945	1005	P81722 P8172 P81722 P8172 P

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                                                                                                                                                                                                                                                                                                                                                                                                  242 -AGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEFDGNVARVGGGIYS----
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                                                                                       Gaps
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                                           Length 964;
                                                                                       Indels
                                       Query Match 12.3%; Score 649.5; DB 2; Best Local Similarity 25.8%; Pred. No. 1.9e-31; Matches 260; Conservative 155; Mismatches 389;
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polymorphic outer membrane protein B family [imported] - Chlamydophila pneumoniae (strai. Cispecies: Chlamydophila pneumoniae, Chlamydia pneumoniae
Cispecies: Chlamydophila pneumoniae, Chlamydia pneumoniae
Cjoate: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
CjAccession: P86548
Mucleic Acids Res. 28, 2311-2314, 2000
A; Title: Comparison of whole genome sequences of chlamydia pneumoniae J138.
A; Reference number: A86491; MUID:20330349; PMID:10871362
A; Reference number: P86548
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A; Reference number: P86548
A; Reference number: P86548
A; Reference number: P86548
A; Reference number: P86548
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A;Cross-references: UNIPROT:Q92883; UNIPARC:UPI000004707C; GB:BA000008; NID:g8978836; PI
A;Experimental source: strain J138
C;Genetics:
A;Gene: pmp_15
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probable outer membrane protein H - Chlamydia trachomatis (serotype D, strain UW3/Cx) C;Species: Chlamydia trachomatis C;Species: Chlamydia trachomatis C;Date: 13-Sep-1998 #sequence_revision 13-Sep-1998 #text_change 09-Jul-2004 C;Accession: H71460 R;Stephens, R.S.; Kalman, S.; Lammel, C.J.; Fan, J.; Marathe, R.; Aravind, L.; Mitchell Science 282, 754-759, 1998 A;Fitle: Genome sequence of an obligate intracellular pathogen of humans: Chlamydia trackReference number: A71570; MUID:9900809; PMID:9784136
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    891 HESFTEEGDQARAFKSGH--LLINLSVPVGVKFDRCSSTHPNKYSFM----AAYICDAYRT 944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     871 DPELHSKLLISGGTWITQATPVIYNALGIKVKOTIMQVPPKVTLSLDYSA----DISSSTL 926
                                                                                                                                                                                                                                                                                                  618
                                                                                                                                                                                                                                                                                                                                                                                                                       DPNT------ANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGSILDIRSAHSAI 726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EVPGRSKDYVV--CRSNHHACIGSVYLSTQQALCGSYLFGDAFIRAS----YGFGNQHMK 838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGIYSYGNVAFLNNGKTLFLNNVASPVYIAAKQPISGQASNTSNNYGDGG----AIFCKN 344
                                                        404
                                                                                    319
                                                                                                                                                                                              482 VGSTITLMHIAIDLPSILSPQA-----QAPKIWIYPTKTGSTYTEDSNPTITISGTLTL
                                                                                                                                                                                                                                                                                                                                                           EDL-DDTAYDRYDWLGSNQKINVLKL-QLGTKPPANAPSDLTLGNEMPKYGYQGSWKLAW
                                                                                                                                                                                                                                                                                                                                                                               ----IEQGRIVLREKAKLSVNSLSQTGGSLYMEAGS--TWDFVTPQPPQQPPA
                                                                                                                                                                                                                                                                                                 ANQLITISNIHLSLSSLLANNAVTNPPTNPPAQDSHPAVIGST----TAGSVTISGPIPP
                                                                                                                                                                                                                                                                                                                                                                                                                                                   596 VETTITITNPTSLIGANTKHKLLYANWSPLGYRPHPERRGEFITNALWQSAYTALAGLHSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QASVDGRSYCRGLWVSGVSNPPYHDRDALG-QGYRYISGGYSLGANSYFGSS-MFGLAFT
                                                                         345 GAQAGSNNSGSVSFDGEGVVFFSSNVAAGKGGALYAKKLSVANCGPVQFLRNIANDGGAI
                                                                                                                  YL----GESGELSLSADYGDIIFDGNLKRTAKENAAD--VNGVTVSSQAISMGSGGKITT
                                                                                                                                                                              LRAKAGHQILFNDPIEMANGNNQPAQSSKLLKINDGEGYTGDIVFANGSSTLYQNVT---
                             -----NSAPANNYGSNFNPGGGGLTTTFC--
                  225 GGIFSTQTLTISSNRCLIBISE----
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A;Status: preliminary
A;Molecule type: DNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EAPIAFVANVA---GVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEFDGNVARVG 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  231
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                                                                                                                                                                                                    871 DPELHSKLLISQGTWTTQATPVTYNALGIKVKNTWQVPPKVTLSLDXSA----DISSSTL 926
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                       SSWDEEKGHAASLQGIGL---LVHQKDKNGPKGFRSHMTGYSATTEATSSQSPNFSLGFA 712
                                                                EVFGRSKDYVV -- CRSNHHACIGSVYLSTQQALCGSYLFGDAFIRAS----YGFGNQHMK 838
                                                                                      TSYTPAEE--SDVRWDNNCLAGEIGAGLPIVITPS-----KLYLNELRPFVQAEFSYAD 890
                                                                                                                                                                                   HESFTEEGDQARAFKSGH--LLNLSVPVGVKFDRCSSTHPNKYSFM----AAYICDAYRT 944
    QASVDGRSYCRGIMVSGVSNPFYHDRDALG-QGYRYISGGYSLGANSYFGSS-MFGLAFT 784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81 CFGNLLG-SFTVLGRGHSLTFENIRTSTNGAALS---NSAADGLFTIEGFKELSF-SNCN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CPGMLLPPTFVLANBGLQLPLETYIT-----LSPBYQAAPQVGFTHNQNQDLAIVGNHN
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                                                                                                                                               Indels 198;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12.2%; Score 644; DB 2; Length 938; 25.8%; Pred. No. 3.9e-31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 25.8%; Pred. No. 3.9e-31;
Matches 266; Conservative 160; Mismatches 408;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           136 SLLAVLPAATTNKGSQT----
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927 SHYLNVASRMRF 938
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GELTLKNL-----DNSIAALPLSCFGNLLGSFTVLGRGHSLTFENIRTSTNGAALSNSA- 116
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                                                                                                                                                                                                                                                                   96 ISAGETLILKDFSSLMPSKNVSCGEKGMISGKTVSISGAGEVIFWDNSVGYSPLSIVPAS 155
                                                                                                                                                                                                                                                                                                  TTNKGSQTPT-----TTSTPSNGT1YSKTDLLLLNNEKFSFYSNLVSGDGGAIDAK 195
                                                                                                                                                                                                                                                                                                                                                         SLTVQGISKLCVPQENTAQADGGACQVVTSPSAMANEAPIAFVANVAGVRGGGIAAVQDG 255
                                                                                                                                                                                                                                                                                                                                                                                                                     QQGVSSSTSTEDPVVSFSRNTAVEFDGNVARVGGGIYSYGNVAFLNN-GKTLFLNNVA-S 313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            314 PVYIAAKQPTSGQASHTSNNYGDGGAIFCK-NGAQAGSNNSGSVSFD----GEG---- 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      281 DLGİLA---ATSRDQNTET--GGGGGVICSPDDSVKPEGNKGSIVPDYNPAKGRGGGSILT 335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ------WFFSSNVAAGKGGAIYAKKLSVA-NCGPVQFLRNIANDGGAIYL----G 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BSGELSLSADYGDIIFDGNL--KRTAKENAADV--NGVTVSSQAISMGSGGKITTLRAKA 463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GHQILFNDPIEMAN---GNNQPAQSSKLL--KINDGEGYTGDIVFA------N 505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         --LITLSNIHLSLSSLIANNAVTNPPAQDSHPAVIGSTTAGSVTISGPIFFEDLDD 623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             654 DWIKPPLAPDAKGMVPPNINN----ILYLIWRPASNYGBYRLDPORKGELVPNSLWVAGS 709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DIRSAHSAIQASVDGR--SYCRGLWVSG--VSNFFYHDRDALGQGYRYISGGY-SLGANS 772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         675 AW-----DPNTANNGPYTLKATWTKTG----YNPGPERVASLVPNSLWGSIL 717
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      825 FIRASYGFGNQHMKTSY----TFARESDVRWDNNCLAGEIGAGLPIV--ITPSKLYLN- 876
                                                                                                                                      GDCAFVNVYAGAENGSI ---ISANGD---NLTITGQNHTLSF---TDSQGPVLQNYAF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    624 TAYDRYD---WLGSNQKINVLKLQLGTKPPANAPSDLTLGN-----EMPKYGYQGSWKL
                                                                                          312;
                                                             Length 1016;
                                                          Query Match
11.7%; Score 615; DB 2; Length 101
Best Local Similarity 24.2%; Pred. No. 2.5e-29;
Matches 280; Conservative 163; Mismatches 402; Indels
C;Genetics:
A;Gene: pmpH
C;Superfamily: Polymorphic membrane protein H family
C;Superfamily: D3 2;
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polymorphic outer membrane protein B/F family [imported] - Chlamydophila pneumoniae (str. Cispecies: Chlamydophila pneumoniae, Chlamydda pneumoniae
Cispecies: Chlamydophila pneumoniae, Chlamydda pneumoniae
Cipate: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
Cistoriae, Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta Casta C
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A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-946 <5TO-
A;Cross-references: UNIPROT:Q92880; UNIPARC:UPI0000131C86; GB:BA000008; NID:g8978841; PI:
A;Experimental source: strain J138
C;Genetics:
992
                                                                                                                                                                                                                                                                                            60 FSAGELTLKNLDNSIAALPLS-CFGNLLGSFTVLGRGHSLTFENIRTSTNGAALSNSAAD 118
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BSWFENPSQDGGALSCKSLAITNTKNQILFLNSFAIKRAGAMYVNGNFDLSENHGSIIFS 143
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                                                                                           -ELRPFVQAEPSYADHESFTEEGDQARAFKSGHLLALSVPVGVKFDRCSSTH---PNKYS
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11.6%; Score 609; DB 2; Length 946;
Best Local Similarity 24.7%; Pred. No. 5.2e-29;
Matches 264; Conservative 138; Mismatches 419; Indels 246; Gaps
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polymorphic outer membrane protein e/f family - Chlamydophila pneumoniae (strain CML029 polymorphic outer membrane protein e/f family - Chlamydia pneumoniae (species: Chlamydophila pneumoniae, Chlamydia pneumoniae C;Species: Chlamydophila pneumoniae C;Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004 C;Accession: C72075 Fxalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J Nature Genet. 21, 385-389, 1999 A;Title: Comparative genomes of Clamydia pneumoniae and C. trachomatis. A;Reference number: A72000; MUID:99206606; PMID:10192388
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                                                            374 KGGAIYAKKISVANCGPVQFLRNIANDGGAIYLGESGELSLSADYGDIIFDGNLKRTAKE
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C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004
C;Accession: D81594
Nucleic Acids Res. 28, 1397-1406, 2000
A;Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39.
A;Reference number: A81500; MUD:20150255; PMID:10684935
A;Accession: D81594
A;Accession: D81594
A;Residues: 1-946 <REA>
A;Residues: 1-946 <REA>
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A;Experimental source: strain AR39, HL cells
C;Genetics:
A;Gene: CP0283
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        PNPEHLGTILPSSAYIPDTSTSRDDPISHFRNHIGLYNGTLALEDRAEWKVYKFDQFGGT 472
                                              LYMEAGSTWDFVTPQPPQQPPAANQLITLSNLHLSLSSLLANNAVTN---PPTN---PPA 594
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                                                                      NAPSDLTLG-NEMPKYGYQGSWKLAW------DPNTANNGPYTLKATWTKTGYNPG
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Best Local Similarity 24.7%; Pred. No. 5.2e-29;
Matches 264; Conservative 138; Mismatches 419; Indels 246;
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A;Accession: C72075
A;Status: preliminary
A;Molecule type: DNA
A;Robidues: 1-946 <ARN>
A;Rosidues: 1-946 <ARN>
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A;Rosidues: 1-946 <ARN>
A;Rosidues: 1-946 <ARN>
A;Coss-references: UNIPROT: Q92880; UNIPARC: UPI0000165625; GB:AE001631; GB:AE001363; NIC
C;Genetics:
A;Gene: pmp_18
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                                                                                                                                                                                                                                                                                    GLFTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTDLLLLNNEKF 178
                                                                                                                                                                                                                                                                                                                                                   SFYSNLVSQDGGAIDAKSLTVQGISKLCVFQENTAQADGGACQVVTSFSAMANBAPIAFV 238
                                                                                                                                                                                                                                                                                                                                                                                                                                          259 NTGSVIFNNNFAMEADISANHSSGGAIYC-----ISCSIK-DNPGIAAFDNNTAAR 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         309 DGGAICTQ6LTIQDSGPVYFTNNQTWGGAIMLRQDGACTLFADQGDIIFYNN--RHFKD 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        367 TFS--NHVSVNCTRNVSL-----TVGASQGHSATFYDPIL----QRYTIQNS-IQKFN 412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAPSDLTLG-NEMPKYGYQGSWKLAW------DPNTANNGPYTLKATWTKTGYNPG 700
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ESWFENFSQDGGALSCKSLAITNTKNQILFLNSFAIKRAGAMYVNGNFDLSENHGSIIFS 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ---SYGNVAPIAN-----GKTLPIN-----NVASPVYIAAKQPTSGQA----- 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    199 IKDNTGPCLFFNNAAGGTAGGALFANACRIENNSQPIYFLNNQSGLGGAIRVHQECILTK 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----SNTSNNYGDGGAIFCKNGAQAGSNNSGSVSFDGEGVVFFSSNVAAG 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KGGAIYAKKLSVANCGPVQFLRNIANDGGAIYLGESGELSLSADYGDIIFDGNLKRTAKE 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    434 NAADVNGVTVS-8QAISMGSGGKITTLRAKAGHQILFNDPIEMANGNNQPAQSSKLLKIN 492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LYMEAGSTWDFVTPQPPQQPPAANQLITLSNLHLSLSSLLANNAVTN---PPTN---PPA 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QDSHPAVIGSTTAGSVTISGPIFFEDLDDTAYDRYDWLGSNQ---KINVLKLQLGTKPPA 651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PERVASLVPNSLWGSI-----LDIRSAHSAIQASVDGRSYCRGLWVSGVSNFFYH---D 751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GSVYLSTQQALCGSYLFGDAFIRASYGFGNQHMKTSYTFAEESDVRWDNNCLAGEIGAGL 864
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                                                                                                                                                 Query Match
11.5%; Score 607; DB 2; Length 946;
Best Local Similarity 24.8%; Pred. No. 6.9e-29;
Matches 265; Conservative 139; Mismatches 417; Indels 246; Gaps
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learch completed: May 13, 2006, 12;20:38 fob time : 62 secs

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chlamydia p
                                                                   May 13, 2006, 12:15:19 ; Search time 243 Seconds (without alignments) 2938.250 Million cell updates/sec
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                                                                                                                    US-10-701-844-2
5267
1 MQTSFHKFFLSMILAYSCCS......YEYRDASRGYGLSAGSRVRF 1012
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09286
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GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd.
                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                    2166443 seqs, 705528306 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PMPG_CHLTR
PMPG_CHLMU
Q823XS_CHLCV
Q823XS_CHLCV
Q823X1_CHLCV
Q823X1_CHLCV
P71135_CHLAB
P71135_CHLAB
Q823WS_CHLAB
Q823WS_CHLAP
PMP1_CHLPN
Q823WS_CHLEN
PMP9_CHLEN
Q823C_CHLEN
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P71132 CHLAB
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PMP2 CHLPN
P71133 CHLAB
Q823X2 CHLCV
PMP1 CHLAB
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Q823X3 CHLCV
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Maximum Match 100%
Listing first 45 summaries
                                               - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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1: uniprot_sprot:*
2: uniprot_trembl:*
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Maximum DB seq length: 200000000
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Q4vws3 chlamydia t Q4vws8 chlamydia t	Q4vwr8 chlamydia t Q516j6 chlamydophi O84fu4 chlamydia t	084882 chlamydia t Q4vws2 chlamydia t	Q4vwrl chlamydia t Q84fu2 chlamydia t Q4vwr6 chlamydia t	Q84ful chlamydia t Q84fu3 chlamydia t	Q84fuo chlamydia t Q84fus chlamydia t
Q4VWS3_CHLTR Q4VWS8_CHLTR	Q4VWR8_CHLTR Q5L6J6_CHLAB Q84FU4_CHLTR	PMPI CHLTR Q4VWS2 CHLTR	Q4VWR1_CHLTR Q84FU2_CHLTR Q4VWR6_CHLTR	084FU1_CHLTR 084FU3_CHLTR	O84FU0_CHLTR Q84FU5_CHLTR
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779.5	773.5	771.5	770.5	766.5	764.5 764.5
32	34.	93.0	39 40 14	4 2 4 8 3	44 45

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This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
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InterPro; IPR005315; Autotransporter.
InterPro; IPR001427; ChlampMP.M.
InterPro; IPR001368; ChlampMP.M.
Pfam; PF02415; Chlam.PMP; 9.
Pfam; PF02415; Chlam.PMP; 9.
Pfam; PF03787; Autotransporter; 1.
TIGRPAMS; TIGR01414; autotrans_barl; 1.
TIGRPAMS; TIGR01376; POMP_repeat; 5.
Complete protecome; Membrane; Multigene family; Outer membrane; Signal.
SIGNAL.
Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=D/UW-3/Cx;
MEDLINE=990008099; PubMed=9784136; DOI=10.1126/science.282.5389.754;
Stephens R.S., Kalman S., Lammel C.J., Fan J., Marathe R., Aravind L.,
Mitchell W.P., Olinger L., Tatusov R.L., Zhao Q., Koonin B.V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1; Gaps
                                                                                                                                                                          Probable outer membrane protein pmpG precursor (Polymorphic membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Davis R.W.;
"Genome sequence of an obligate intracellular pathogen of humans:
"Genome trachomatis.";
Science 282:754-759(198).
-i- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Potential).
-!- SIMILARITY: Belongs to the PMP outer membrane protein family.
-!- SIMILARITY: Contains 1 autotransporter (TC 1.B.12) domain.
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                                                                                                                                                                   protein G).
Name-pmg6, OrderadLocusNames=CT871;
Chlamydia trachonatis.
Bacteria, Chlamydiae; Chlamydiaee; Chlamydia.
NCBI_TAXID=813;
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                                                                                                                                                                                                                                                                                                                                                                                                                                   NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                  (Rel. 40, Created)
(Rel. 40, Last sequence update)
(Rel. 48, Last annotation update)
   PRT; 1013 AA
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PIR; G71460; G71460.
PHCI-2DPAGE; 084879; -.
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Best Local Similarity 97.0
Matches 983; Conservative
STANDARD;
                                                                      16-OCT-2001
16-OCT-2001
                                                                                                                                                13-SEP-2005
   PMPG CHLTR
084879;
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        MOTSPHKFFLSMILAYSCCSLNGGGYAAEIMVPQGIYDGETLTVSFPYTVIGDPSGTTVF
                  MQTSFHKFFLSMILAYSCCSLSGGGYAAEIMIPQGIYDGETLTV8FPYTVIGDPSGTTVF
                                                                                     PTI EGFKELSPSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTDLLLLNNEKFSP
                                                                                               FIIBGFKELSPSNCNSLLAVLPAATTINGSQTPTTTSTPSNGTIYSKTDLLLLINNEKFSF
                                                                                                                            YBNLVBGDGGAIDAKBLTVQGIBKLCVPQENTAQADGGACQVVTSFSAMANEAPIAFVAN
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RESULT 2

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This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
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TIGRPAMS; TIGRO1376; POMP_repeat; 5.
Complete proteome; Membrane; Multigene family; Outer membrane; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MQTSFHKPPLSMILAYSCCSLNGGGYAAEIMVPQGIYDGETLTVSPPYTVIGDPSGTTVP
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16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
13-SEP-2005 (Rel. 48, Last annotation update)
Probable outer membrane protein pmpG precursor (Polymorphic membrane
                                                                                                                                                                                                                                                                                                                                           Вомшал
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (Potential).
-!- SIMILARITY: Belongs to the PMP outer membrane protein family.
-!- SIMILARITY: Contains 1 autotransporter (TC 1.B.12) domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 38;
                                                                          protein G).

Mame-pmpG; OrderedLocusNames=TC0263;
Chlamydia muridarum.
Bacteria; Chlamydiae; Chlamydiales; Chlamydia.
NCBI_TaxID=83560;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1; Length 987;
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73.0%; Score 3845; DB 1;
Best Local Similarity 72.6%; Pred. No. 5.1e-219;
Matches 739; Conservative 105; Mismatches 136;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AE002293; AAF39132.1; -; Genomic_DNA.
FIR; H81722; H81722.
TIGR; TC0263; -.
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InterPro; IPR006315; Auto_transporter.
InterPro; IPR011427; ChlamPMP M.
InterPro; IPR003368; ChlamPMI P.
Pfam; PR03797; Autoctransporter; 1.
Pfam; PR03797; Autoctransporter; 1.
Pfam; PR03415; ChlamPMP; 9.
Pfam; PR05448; ChlamPMP, 1.
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the role of niche-specific genes in the evolution of
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                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 35.3%; Score 1860.5; DB 2;
Best Local Similarity 39.6%; Pred. No. 2.1e-101;
Matches 426; Conservative 168; Mismatches 353;
                         Chiamydiaceae.";
Nucleic Acids Res. 31:2134-2147(2003).
EMBL; AR016995; AAP05029.1; -; Genomic_DNA.
TIGR; CCA00278; -.
GO; GO:0019867; C:outer membrane; IEA.
InterPro; IPR006315; Autotransporter.
InterPro; IPR001427; ChlamPMP M.
InterPro; IPR011427; ChlamPMP M.
Pfam; PP031997; Autotransporter;
Pfam; PP031997; Autotransporter;
Pfam; PP031997; ChlamPMP M; I.
Pfam; PP03197; ChlamPMP M; I.
                                                                                                                                                                                                                                                                                        TIGRFAMS; TIGR01414; autotrans barl; 1.
                                                                                                                                                                                                                                                                                                                                          Complete proteome
SEQUENCE 1011 A
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                                                                                                                                                                                                                                                                                                                                                                                                             GGSVHMEGGSTLDFAV----TTPPAANSM-ALTNVHFSLASLLKNNGVTNPPTNPPVQVS
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                                                           399 RGDIIPDGNLKRMATQGAATVHDVMVASNAISMATGGQITTLRAKEGRRILFNDPIEMAN
                                                                                                                                                                                                                                                                                              GNNOPAOSSKLLKINDGEGYTGDIVPANGSSTLYQNVTIEQGRIVLREKAKLSVNSLSQT
                                                                                                                                                                                                                                                                                                                        GGSLYMEAGSTWDFVTPQPPQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               598 HPAVIGSTTAGSVTISGPIFFEDLDDTAYDRYDWLGSNOKINVLKLOLGTKPPANAPSDL
                                  LINIGKTI. PLINIVAS PVYI - - AAKQPTSGQAS NTSNIYGDGGAI PCKNGAQAGSNINSGSVS
                                                                                                                       PDGEGVVFPSSNVAAGKGGAIYAKKLSVANCGPVQFLRNIANDGGAIYLGESGELSLSAD
                                                                                                                                                                                                            418 YGDIIFDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=22569155; PubMed=12682364; DOI=10.1093/nar/gkg321; MEDLINE=22569155; PubMed=12682364; DOI=10.1093/nar/gkg321; Read T.D., Myers G.S.A., Brunham R.C., Nelson W.C., Paullaen I.T., Heidelberg J.P., Holtzapple B.K., Vourri H.M., Federova N.B., Carty H.A., Umayam L.A., Haft D.H., Peterson J.D., Beanan M.J., White O., Salzberg S.L., Haia R.-C., McClarty G., Rank R.G., Bavoil P.M., Fraser C.M.; Haia R.-C., McClarty G., Rank R.G., "Genome sequence of Chlamydophila caviae (Chlamydia psittaci GPIC):
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01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Polymorphic outer membrane protein G family
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OrderediocusNames=CCA00278;
Chlamydophila caviae.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae;
NCBI_TaxID=83557;
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Q823XS_CHLCV PRELIMINARY;
Q823XS;
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NUCLEOTIDE SEQUENCE.
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NDGGAIYLGESGELSLSADYGDIIPDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITT 458 503 114 ----ANGSSTLYONVTIEOGRIVLREKAKLSVNSLSO-TGGSLYMEAGSTWDFVTPOPP 557 601 54 --KNTDGTITLTGHVSLDDVSGTAXENHDLFNKDTVTINLLSLSTAGDSKTTING-LDLT PPPTTNPVFSG-----LTITNQKDILFANNFAATAGGAIYGEKVSITSSGKTMFTNNIA SASTTANPESTIYQKVILGGGKLVLADKASLSVASFTQETDSILLADNGTT.--LAITEHS L-GNEMPKYGYQGSWKLAWDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGSIL 115 SAADGLFTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTDLLLLIN 175 NEKRSFYSNIVSGDGGAIDAKSLIVQGISKI, CVFQENTAQADGGACQVVISFSAMANEAP 169 IQNVLPKNNRAADSGGGIWVETAGISNIKKSMQPLSNVG-ANGGA--INASKSLDVTQCP 383 KDGGAIYIPENGELTLSADYGDMIFYENLKK------DDATVTRNAVTLAKGATIKL LRAKAGHQILFNDPIEMANGNNQPAQSSKLLKINDGE-----GYTGDIVF-----QQPPAA-------NQLITLSNIHLSLSSLLANNAVTNPPTNPPAQDSHPAV 602 IGSTTAGSVTISGPIPPEDLDDTAYDRYDWLGSNQ-KINVLKLQLG--TKPPANAPSDLT 59 VFSAGELTLKOLDNSIAALPLSCFGNLLGSFTVLGRGHSLTFRNIRTSTNGAALSN----115 TPESFPYTIKGVNTLSFSNC---LALMARTITAPNTTTPV---NPNGGAFYSKAPVFLEN - IAFVANVAGVRGGGIAAVQDGQQGVSSSTSTBDPVVSFSRNTAVEFDGNVARVGGGIYS 226 SILFRSNSAEKLGGAIQAVD-----PATTNOVNTAVRFSENGSVQFDANNAKSGGAIYS YGNVAFLNNGKTLFLNNVASPVYIAAKQPTSGQASNTSNNYGDGGAIFC-----280 KGNVDPSNNAQLLIQNNSASP-----EVANTNEVLGGGGAIFCVQQTPTQPPPP ----KNGAQAGSNNSGSVSFDGEGVVFFSSNVAAGKGGAIYAKKLSVANCGPVQFLRNIA 1 MQTSFHKFFLS--MILAYSCCSLNGGGYAAKIMVPQGIYDGKTLTVSFPYTVIGDPSGTT Gaps Indels 129; Length 1011; | | | | | H HOTPAAGGGGGGGTPTQEANTDGVISLINLHVNISSLIEQGEGAKLET 1011 AA; 107952 MW; EBDA9FA1C46EDEE6 CRC64;

382

461

505

561 552

401

605 612 661 717 729 776 789 836 848 896

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849 MKTRYTFIPEASGNWDNNCWLGEVGGSLPIVLQTTKLHLNQFVPFVNVQIGYAEHGSFRE 908
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Kalman S., Mitchell W.P., Marathe R., Lammel C.J., Fan J., Hyman R.W.,
Olinger L., Grimwood J., Davis R.W., Stephens R.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      957 ETWITDAFHLARHGVVVVRGSMYASLISNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
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                                                 VGGGIYSYGNVAFLNNGKTLFLNNVASPVYIAAKQPTSGQASNTSNNYGDGGAIFCKNGA
                                                                                                                                             QAGSINSGSVSPDGEGV----VPPSSNVAAGKGGAIYAKKLSVANCGPVQFLRNIANDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GSSTLYQNVTIEQGRIVLREKAKLSVNSLSQTGGSLYMEAGSTWDFVTPQ----PPQQPP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AANQLITLSNLHLSLSSLLANNA-VTNPPTNPP-------AQDSHPAVIGS-T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAASVVTAARVSSVTSSTAATAASVTNQANSDGVVSIKDLHINLGSLTQDGEGAKIETKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              606 TAGSVTISGPIFFEDLDDTAYDRYDWLGSNQKINVLKLQLGTKPPAN-APSDLTL---GN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            662 EMPKYGYQGSWKLAMDPNTANNG----PYTLKATWTKTGYNPGPERVASLVPNSLWGSIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADPQYGYQGSWKLSWENGT--NGDAQKKKVLKATWTKTGFVPSPERQASLVPNSLWGAPI
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102896; Q9KZA1; Q9Z410;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
113-SBP-2005 (Rel. 48, Last annotation update)
13-SBP-2005 (Rel. 48, Last annotation update)
13-SBP-2005 (Rel. 48, Last annotation update)
13-SPD-2005 (Rel. 48, Last annotation update)
13-SPD-2005 (Rel. 48, Last annotation update)
13-SPD-2005 (Rel. 48, Last annotation update)
13-SPD-2005 (Rel. 48, Last sequence protein 14).
14).
15-SPD-2005 (Rel. 48, Last sequence protein 14).
16-CCT-2007 (Rel. 40, Last sequence protein 14).
17-SPD-2005 (Rel. 48, Last sequence protein 14).
18-CET-2005 (Rel. 40, Last sequence protein 14).
18-CET-2005 (Rel. 40, Last sequence protein 14).
18-CET-2005 (Rel. 40, Last sequence protein 14).
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18-CET-2005 
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NUCLECTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
STRAIN=CWL029;
                                              277 SGGAIYSKGNINFSNNVQLLMQNNTASP-
                                                                                                                                                                                                                      323
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Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
NCBI_TaxID=83555;
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TIGRPAMs; TIGR01376; POMP_repeat; 6.
Complete proteome; Membrane; Multigene family; Outer membrane; Signal.
                                                                STRAIN=AR39;
MBDLLNR=2015055; PubMed=10684935; DOI=10.1093/nar/28.6.1397;
Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,
White O., Hickey B.K., Peterson J.D., Utterback T.R., Berry K.J.,
Bass S., Linher K.D., Weidman J.P., Khouri H.M., Craven B., Bowman C.,
Dodson R.J., Gwinn M.L., Nelson W.C., DeBoy R.T., Kolonay J.F.,
MCClarty G., Salzberg S.L., Eisen J.A., Fraser C.M.;
"Genome sequences of Chlamydia trachomatis MoPn and Chlamydia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=CWL029 / VR1310;
MEDLINE=20007584; PubMed=10539856;
Christiansen G., Boesen T., Hjerno K., Daugaard L., Mygind P.,
Madsen A.S., Knudsen K., Falk B., Birkelund S.;
"Molecular biology of Chlamydia pneumoniae surface proteins and their
                                                                                                                                                                                                                                                                  MEDLINE=20330349; PubMed=10871362; DOI=10.1093/nar/28.12.2311; Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K., Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.; Comparison of Whole genuences of Chlamydia pneumoniae J138 from Japan and CWL029 from USA."; Nucleic Acids Res. 28:2311-2314 (2000).
"Comparative genomes of Chlamydia pneumoniae and C. trachomatis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (Potential).
--- SIMILARITY: Belongs to the PMP outer membrane protein family.
--- SIMILARITY: Contains 1 autotransporter (TC 1.B.12) domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         role in immunopathogenicity.";
Am. Heart J. 138:S491-S495(1999).
-!- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
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EMBL; AE002191; AAF38156.1; ALT INIT; Genomic DNA.
EMBL; BA000008; BAAP88660.1; -; Genomic DNA.
EMBL; AA133034; CAB37074.1; -; Genomic DNA.
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NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                              NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
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                                                                                                                                                                                           pneumoniae AR39.";
Nucleic Acids Res. 28:1397-1406(2000).
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InterPro; IPR011427; ChlamPMP M.
InterPro; IPR003368; Chlamydia_PMP.
Pfam; PP03797; Autotransporter; 1.
Pfam; PP02415; Chlam_PMP; 8.
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NUCLEOTIDE SEQUENCE OF 1-262.
                   Genet. 21:385-389(1999).
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2DPAGE; Q9Z896; -.
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973 AA;
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PIR; F72076; F72076
PHCI-2DPAGE; Q92896;
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                                                                                                                                                         VAFLINIGKTLFLINIVASPV-YLAAKQPTSGQASNTSNNYGDGGALFCKNGAQAGSNNSGS
                                                                                                                                                                                                                                                                                                                                                                                                                                           VTPSNNSDLTPQNNTASPQNSLPAPTPPPAVTP-LLGYGGAIPCTPPATPPPTGV-S
                                                             1 MOTSPHKEPLSMILAYSCCSLNGGGYAABIMVPQGIYDGETLTVSFPYTVIGDPSGTTVF
                                                                                    --- LPTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTDLLLLNNE
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                                                                                                                                  SAGELTLINNLDNSIAALPLSCFGNLLGSFTVLGRGHSLTFENIRTSTNGAALSNSAADG-
                                 103;
DB 1; Length 973;
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                   Pred. No. 4.2e-72;
Mismatches 420;
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   25.9%; Score 1365.5;
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 Query Match 25.9%; Sco
Best Local Similarity 33.5%; Pro
Matches 350; Conservative 171;
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AAPELKFEGNAQLLFLENSSQVSGGALYSNKLTISSGGTTVFANNTVTNANPMGGAICLD 322
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                                                                                    - ESGELSLSADYGDIIFDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQ
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EMBL; U72499; AABI8188.1; -; Genomic_DNA.
GO; GO:0019867; C:outer membrane; IRA.
InterPro; IPR006315; Autotransporter.
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Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
NCBI_TaxID=83555;
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01-FEB-1997 (TrEMBLrel. 02, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Putative 98 kDa outer membrane protein.
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InterPro; IPR011427; ChlamPMP M.
InterPro; IPR011427; ChlamPMP M.
InterPro; IPR00386; ChlamPdia_PMP.
Pfam; PP07548; ChlamPMP M; 1.
Pfam; PP075415; ChlamPMP M; 1.
Pfam; PP075415; ChlamPMP M; 1.
TICRPAMS; TIGR01414; autotrans_barl; 1.
TIGRPAMS; TIGR01376; POMP_repeat; 5.
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KEDLINE=22569155; PubMed=12682364; DOI=10.1093/nar/gkg321;

KEDLINE=22569155; PubMed=12682364; DOI=10.1093/nar/gkg321;

Read T.D., Myers G.S.A., Brunham R.C., Nelson W.C., Pallsen I.T.,

A Heldelberg J.F., Holtzapple B.K., Khouri H.M., Federova N.B.,

Carty H.A., Umayam L.A., Haft D.H., Peterson J.D., Beanan M.C.,

Minite O., Salzberg S.L., Heia R.-C., McClarty G., Rank R.G.,

Minite O., Salzberg S.L., Heia R.-C., McClarty G., Rank R.G.,

Reavoil P.M., Fraser C.M.;

Genome sequence of Chlamydphila caviae (Chlamydia psittaci GPIC):

examining the role of niche-specific genes in the evolution of the

T. Chlamydiacese.";

I. Nucleic Acids Res. 31:2134-2147(2003).

R. REBL; ARO16995; AAP05033.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                           01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Polymorphic outer membrane protein G family protein/autotransporter,
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Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila
NCBI_TaxID=83557;
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InterPro; IPR005546; Auto transpibeta.
InterPro; IPR001427; ChlamPMP_M.
InterPro; IPR001368; ChlamPMla PMP.
Pfam; PF03797; Autotransporter; 1.
Pfam; PF07548; ChlamPMP M; 1.
Pfam; PF07415; ChlamPMP; 6.
TIGRFAMS; TIGR01376; POMP_repeat; 6.
950 GHCGCDIRRISRQYTLDIGSKLRF 973
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OrderedLocusNames=CCA00282;
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SEQUENCE 926 AA
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312 VTHATPKGGAIGIAANGECSLTAEHGDITFDNNLMAT-QDNA-----TIKRNAINIEGN
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                                                                                                                                                                                                                                                                                                   -----GDPSGTTVFSAGELTLKNLDNSI-----AALPLSCFGNLLGSFTVLGRGHS
                                                                                                                       Gape
                                                        21.3%; Score 1122; DB 2; Length 926; 29.7%; Pred. No. 1.1e-57;
                                                                                                                       Indels
98439 MW; 3E755E52F594750F CRC64;
                                                                                                    Best Local Similarity 29.7%; Pred. No. 1.1e-57;
Matches 323; Conservative 152; Mismatches 376;
      926 AA;
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228 YSEASMTIAGNNHVAPSNNAVS-----TG 265
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Thomson N.R., Yeats C., Bell K., Holden M.T.G., Bentley S.D.,
Thomson N.R., Veats C., Bell K., Holden M.T.G., Bentley S.D.,
Livingstone M., Cerdeno-Tarraga A.-M., Harris B., Doggett J.,
Ormond D., Mungall K., Clarke K., Feltwell T., Hance Z., Sanders P.
Quail M.A., Price C., Barrell B.G., Parkhill J., Longbottom D.,
"The Chlamydophila abortus genome sequence reveals an array of
variable proteins that contribute to interspecies variation.";
Genome Res. 15:629-640(2005).
EMBL; CR848038; CAH63732.1; -; Genomic_DNA.
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01-FRB-2005 (TrEMBLrel. 29, Last sequence update)
01-FRB-2005 (TrEMBLrel. 29, Last annotation update)
01-FRB-2005 (TrEMBLrel. 29, Last annotation update)
Polymorphic outer membrane protein.
Names-pmp14G; Synonyms-pomp98A; OrderedLocusNames=CAB282;
Chlamydophila abortus.
Bacteria; Chlamydiae; Chlamydiales; Chlamydophila.
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21.3%; Score 1122; DB 2; Length 926;
Best Local Similarity 30.3%; Pred. No. 1.1e-57;
Matches 325; Conservative 151; Mismatches 389; Indels 208;
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Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,
White O., Hickey E.K., Peterson J.D., Utterback T.R., Berry K.J.,
Bass S., Linher K.D., Weldman J.F., Khouri H.M., Craven B., Bowman C.,
Dodson R.J., Gwinn M.L., Nelson W.C., DeBoy K.T., Kolonay J.F.,
McClarty G., Salzberg S.L., Eisen J.A., Fraser C.M.,
"Genome sequences of Chlamydia trachomatis MoPn and Chlamydia
                                                             SPYDPITV-EGN----AADLLTLNKAEGDKTYNGRIIFSGEKLTEEQAAVADNLKTTFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                           SYIDYPEVKGSWGNDILGLILSTSVPIPVFSSSIF-DSYAPFAKLQVVYAHQDDFKEPTI
LFNDPIEMANGNNQPAQSSKLLKINDGEG---YTGDIVFA------NGSSTLY
                                                                                                                                 ONVITEOGRIVLREKAKLSVNSLSOTGGSL-YMEAGSTWDFVTPQPPQQPPAANQLITLS
                                                                                                                                                                                                                                                                              571 NLHLSLSSLLANNAVTNPPTNPPAQDSHP-AVIGSTTAG-SVTISGPIPFEDLDDTAYDR
                                                                                                                                                                                                                                                                                                                     YDWLGSNQKIN----VLKLQL---GTKPPANAPSDLTLGNEMPKYGYQGSWKLAWDPNTA
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19.08B65; O86163; Q9RB64; Q9S6P2;
16-OCT-2001 (Rel. 40, Created)
10-MAY-2005 (Rel. 47, Last sequence update)
10-MAY-2005 (Rel. 47, Last annotation update)
10-MAY-2005 (Rel. 47, Last protein pmpl0 precursor (Polymorphic membrane protein 10) (Outer membrane protein ps.)
10-MAY-2005 (Rel. 47, Last annotation update)
10-MAY-2005 (Rel. 47, Last annotation update)
10-MAY-2005 (Rel. 47, Last annotation update)
10-MAY-2005 (Rel. 47, Last annotation precursor (Polymorphic membrane protein 10) (Outer membrane protein 5).
10-MAY-2005 (Rel. 47, Last annotation precursor (Polymorphic membrane protein 10) (Outer membrane protein protein 2).

10-MAY-2005 (Rel. 47, Last annotation update)
10-MAY-2005 (Rel. 47, Last annotation update)
10-MAY-2005 (Rel. 47, Last annotation update)
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Madsen A.S., Knudsen K., Falk E., Birkelund S.;
"Molecular biology of Chlamydia pneumoniae surface proteins and their
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MEDLINE=20007584; PubMed=10539856;
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Am. Heart J. 138:8491-8495(1999)
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This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
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                                                                                                                                                                                                                                                                                                              MEDLINE=20330349; PubMed=10871362; DOI=10.1093/nar/28.12.2311; Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K., Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.; Comparison of Whole genome sequences of Chlamydia pneumoniae J138 from Japan and CWL029 from USA."; Nucleic Acids Res. 28:2311-2314(2000).
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Probable outer membrane protein pmpl0.
Missing (in Ref. 4).
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-1- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
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TIGRFAMS; TIGR01376; POMP_repeāt; 5.
Membrane; Multigene family; Outer membrane; Signal.
                                                                                                                                                                                     NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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EMBL; AE002192; AAF38160.1; -; Genomic DNA.
EMBL; BA000008; BAA98657.1; -; Genomic DNA.
EMBL; AE017158; AAP98398.1; -; Genomic DNA.
EMBL; AJ001311; CAA04671.1; -; Genomic DNA.
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pneumoniae AR39.";
Nucleic Acids Res. 28:1397-1406(2000)
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InterPro; IPR003368; Chlamydia_PMP.
InterPro; IPR006268; PbH1.
Pfam; PF03797; Autotransporter; 1.
Pfam; PF02415; Chlam PMP; 7.
Pfam; PF07548; ChlamPMP_M; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUCLEOTIDE SEQUENCE OF 1-914.
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PHCI-2DPAGE; O86163; -.
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                   LFTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTDLLLLNNEKFS 179
                                                        PYSNLVSGDGGAIDAKSLTVQGISKLCVFQENTAQADGGACQVVTSFSAMANEAPIAFVA 239
                                                                                                                 --TGKKGGAİCA-----TGİ----VDITNNİAPTLFSNNIABAAGGAİNSTGNC 238
                                                                                                                                                       239 TITGNTSLVFSEN-----SGDADVT 270
 TLIGDITLQNIGDS-AALTKGCPSDTTBSLSPAGKGYSLSFLNIKSSAEGAALS-VTTDK 115
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                                      116 NLSLTGPSSLTP----LAAPSSVITTPSG------KGAVKCGGDLTFDNNGTIL
                                                                                             240 NVAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTA-VEFDGNVAR-VGGGIYSYGNV
                                                                                                                                                                          358 PDGEGVVPFSSNVAAGKGGAIYAKKLSVAN--CGPVQFLRNI-----ANDGGAIYLGESG
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9 CHLCV QB23W9_CHLCV PRELIMINARY; QB23W9; 01-JUN-2003 (TrEMBLrel. 24, 01-JUN-2003 (TrEMBLrel. 24,

0823W9 1D 08 AC Q8 DT 01

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SGSVSFDGEGVVPFSSNVAAGKGGALYAKKLSVANCGPVQFLRNIAND----GGALYLGE 408
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                                                                                                                                                                                                                                          MEDLINE=22569155; PubMed=12682364; DOI=10.1093/nar/gkg321; Read T.D., Myers G.S.A., Brunham R.C., Nelson W.C., Paulsen I.T., Redelberg J.F., Holtzapple B.K., Khouri H.M., Federova N.B., Carty H.A., Umayam L.A., Haft D.H., Peterson J.D., Beanan M.J., White O., Salzberg S.L., Hsia R.-C., McClarty G., Rank R.G., Bavoil P.M., Fraser C.M.; "Genome sequence of Chlamydophila caviae (Chlamydia psittaci GPIC): "Genome sequence of Chlamydophila caviae (Chlamydia psittaci GPIC): Chlamydiaceae.";
                                                                                                             Chlamydophila caviae.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
NCBI_TaxID=83557;
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01-WAR-2004 (TrEMBLrel. 26, Last annotation update)
Polymorphic outer membrane protein G family
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20.9%; Score 1099; DB 2;
Best Local Similarity 29.4%; Pred. No. 2.4e-56;
Matches 315; Conservative 154; Mismatches 398;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AE016995; AAP05035.1; -; Genomic_DNATIGR; CCA00284; -.
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SMART; SM00710; PbH1; 4.
TIGRFAMS; TIGR01414; autotrans barl; 1.
TIGRPAMS; TIGR01376; POMP_repeat; 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nucleic Acids Res. 31:2134-2147 (2003)
                                                                protein/autotransporter.
OrderedLocusNames=CCA00284;
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NUCLEOTIDE SEQUENCE.
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                                                                                                                                                                                       LHLSLSSLLANNAVTNPPTNPPAQDSHPAVIGS-TTAGSVTISGPIFFEDLDDTAYDRYD 630
                                                                                                                                                                                                                       528 --- LNETLALGGIQFSAKGSITTTDVPS-TTTRSPAQHYGYQGNWSLSWITDNGSDPKT- 582
                                                                                                                                                                                                                                                                                                                                                                                                                             ----QTAVPNWNKTGYNPNPERRAPLVLNSLWGSFWDIRSIQDVMERSVDTLLETRRGLW 638
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                                            PYDPIVVG-----GTAADLLTLNQAEGTKVYNGRIIFSGEKLTEDQTADADNLKTVFTQ 433
                                                                                                                                                                                                                                                                                   631 WLGSNQKINVLKLQLGTK---PPANAPSDLTLGNEMPKYGYQGSWKLAW-----DPNTA 681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TPARESDVRWDNNCLAGEIGAGLPIVITPSKLYLNRLRPFVQARFSYADHRSFTEEGDQA 901
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16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
10-MAX-2005 (Rel. 47, Last annotation update)
10-MAX-2005 (Rel. 47, Last annotation update)
10-MAX-2005 (Rel. 47, Last annotation update)
10-MAX-2005 (Rel. 47, Last annotation update)
10-MAX-2005 (Rel. 47, Last annotation propriet annotation protein 1)
10-MAX-2005 (Rel. 47, Last sequence protein 4).
10-MAX-2005 (Rel. 47, Last sequence protein 4).
11-MAX-2005 (Chlamydophila pneumoniae).
12-MAX-2005 (Chlamydophila pneumoniae).
13-MAX-2005 (Chlamydiales; Chlamydiaceae; Chlamydophila.
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"Identification of two novel genes encoding 97- to 99-kilodalton outer
membrane proteins of Chlamdia pneumoniae.";
Infect. Immun. 67:375-383(1999).
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MEDLINE=20007584; PubMed=10539856;
Christiansen G., Boesen T., Hjerno K., Daugaard L., Mygind P.,
Madeen A.B., Knudsen K., Falk E., Birkelund S.;
"Molacular blology of Chlamydia pneumoniae surface proteins and their role in immunopathogenicity.";
Am. Heart J. 138:8491-8495(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           800 HHACIGSVY------LSTQQALCGSY-----LFGDAFIRASYGFGNQHMKTSY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PNDPIEMANGNNQPAQSSKLLKINDGEG---YTGDIVFA---
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MEDLINE=99081766; PubMed=9864239;
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This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
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-1- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
MEDLINE=99206606; PubMed=10192388; DOI=10.1038/7716; Kalman S., Mitchell W.P., Marathe R., Lammel C.J., Fan J., Hyman R.W., Olinger L., Grimwood J., Davis R.W., Stephens R.S.; "Comparative genomes of Chlamydia pneumonlae and C. trachomatis."; Nat. Genet. 21:385-389(1999).
                                                                                                                                                                                                                                                                                                                            MEDLINE=20150255; PubMed=10684935; DOI=10.1093/nar/28.6.1397; Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F., White O., Hickey B.K., Peterson J.D., Utterback T.R., Berry K.J., Bass S., Linher K.D., Weidman J.F., Khouri H.M., Craven B., Bowman C., Bodson R.J., Galin W.C., DeBoy R.T., Kolonay J.F., McClarty G., Salzberg S.L., Eisen J.A., Praser C.M., Genome sequences of Chlamydia trachomatis Mopn and Chlamydia
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Complete proteome; Membrane; Multigene family; Outer membrane; Signal.
SIGNAL
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Matches 311; Conservative 154; Mismatches 394; Indels 222;
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EMBL; AJ13034; CAB37072.1; -; Genomic DNA.
EMBL; AS001628; AD18593.1; -; Genomic DNA.
EMBL; BA00192; AAF38159.1; ALT INIT; Genomic DNA.
EMBL; BA000008; BAA98658.1; -; Genomic DNA.
EMBL; AR017158; AAF98399.1; -; Genomic DNA.
PIR; D72077; D72077.
PIR; B6546; H86546.
PHCI-2DPAGE; O86164; -.
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InterPro; IPR005546; Auto_transptbeta.
InterPro; IPR011427; ChlamPMP M.
InterPro; IPR003369; Chlamydia_PMP.
Pfam; PP03797; Autotransporter; 1.
Pfam; PP02415; Chlam PMP; 6.
Pfam; PP07548; ChlamPMP M; 1.
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Nucleic Acids Res. 28:1397-1406(2000).
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MKTSIPWVLVSSVLAPSCHLQSLAN----BELLSPDDSFNGNIDSGTFTPKTSATTYSLT
                                          GDPSGTTVPSAGELTLKNLDNSIAALPL--SCFGNLLGSFTVLGRGHSLTFENIRTSTNG
                                                                                    GD---VPFYEPGKGT-------PLSDSCFKQTTDNLTFLGNGHSLTFGFIDAGTHA
                                                                                                                                110 AALSNSAADGLFTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKTD
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          092393; 098B66;
16-0CT-2001 (Rel. 40, Created)
16-0CT-2001 (Rel. 40, Last sequence update)
13-SEP-2005 (Rel. 48, Last annotation update)
13-SEP-2005 (Rel. 48, Last annotation update)
Probable outer membrane protein pmp8 precursor (Polymorphic membrane protein 8) (Outer membrane protein 11).
Name-pmp8; Synonyma-omp11; OrderedLocusNames=CPn0446, CP0307, CpB0463; Chlamydia pneumoniae (Chlamydopphila pneumoniae).
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ວີ
                                                                                                                                                                                                                                                                                                          Christiansen G., Boesen T., Hjerno K., Daugaard L., Mygind P.,
Madeen A.S., Knudsen K., Falk E., Birkelund S.;
"Molecular biology of Chlamydia pneumoniae surface proteins and their
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE-20150255; PubWed=10684935; DOI=10.1093/nar/28.6.1397; Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F., White O., Hickey B.K., Peterson J.D., Utterback T.R., Berry K.J., Bass S., Linher K.D., Weidman J.E., Khouri H.M., Craven B., Bowman Dodeson R.J., Gwinn M.L., Nelson W.C., DeBoy R.T., Kolonay J.F., McClarty G., Salzberg S.L., Eisen J.A., Fraser C.M.; "Genome sequences of Chlamydia trachomatis MoPn and Chlamydia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDIJINE=20330349; PubMed=10871362; DOI=10.1093/nar/28.12.2311; Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K., Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.; Comparison of whole genome sequences of Chlamydia pneumoniae J138 from Japan and CWL029 from USA."

    -i- SIMILARITY: Belongs to the PMP outer membrane protein family.
    -i- SIMILARITY: Contains 1 autotransporter (TC 1.B.12) domain.

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NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
930 AA
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Nucleic Acids Res. 28:1397-1406(2000)
PRT;
                                                                                                                                                                                                                                                                                             MEDLINE=20007584; PubMed=10539856;
                                                                                                                                                                                                                                                                                                                                                                                                    Heart J. 138:S491-S495 (1999).
                                                                                                                                                                                                                                                                                                                                                                                  role in immunopathogenicity.
  STANDARD;
                                                                                                                                                                                                                                                     SEQUENCE.
329 / VR1310;
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NUCLEOTIDE
  CHLPN
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EMBL; AJ133034; CAB37068.1; -; Genomic_DNA.

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ETTESSIPHTPLSPTASSDVANRHGSPSPET-----KTPPTAVASQANGETNKSCF 276
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      FIVENTSHNYLASLYLQHRAFLGGLPMPSFGSITDMLXDIPLILNAQLSYSYTXNDMDTR
                                                                                                                                    583 WADISTAKSG----IMIWVITGYNPNPBRRASVVPDSLWASFTDIRTLQQIMTSQANSIY
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                                                                                                                                                                                                                         735 YCRGLWVSGVSNFFYHDRDALGQGYRYISGGYSLGANSY-FGSSMFGLAFTEVFGRSKDY
                                                                                                                                                                                                                                                                                                                                              794 VVCRSNHHACIGSVYLSTQQALCGSYL--FGDAF-----IRASYGFGNQHMKTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901 ARAFKSGHLINLSVPVGVKFDRCSSTHPNKYSFMAAYICDAYRTISGTETTLLSHQETWT
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PUDMed-15837807; DOI=10.1101/gr.3684805;
Thomson N.R., Yeats C., Bell K., Holden M.T.G., Bentley S.D.,
Livingstone M., Cerdeno-Tarraga A.-M., Harris B., Doggett J.,
Livingstone M., Cerdeno-Tarraga A.-M., Harris B., Doggett J.,
Curnond D., Mungall K., Clarke K., Feltwell T., Hance Z., Sanders M.,
Quail M.A., Price C., Barrell B.G., Parkhill J., Longbottom D.;
"The Chlamydophila abortus genome sequence reveals an array of
Genome Res. 15:629-640(205).

EMBL; CR848038; CAH63733.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  961 TDAFHLARHGVVVRGSMYASLISNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
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01-FEB. 2005 (TrEMBLrel. 29, Last sequence update)
01-FEB. 2005 (TrEMBLrel. 29, Last sequence update)
01-FEB. 2005 (TrEMBLrel. 29, Last annotation update)
Polymorphic outer membrane protein.
Polymorphic Synonyms=pomp145A; OrderedLocusNames=CAB283;
Chlamydophila abortus.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Complete proteome.
SEQUENCE 1378 AA; 144965 MW; 40B2108B7F26BF89 CRC64;
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InterPro; IPR005546; Auto transptbeta.
InterPro; IPR00515, Auto transptbeta.
InterPro; IPR0011427; Chlampdia PMP.
InterPro; IPR001368; Chlamydia PMP.
InterPro; IPR003368; Chlamydia PMP.
InterPro; IPR003368; Chlamydia PMP.
Pfam; PP02415; Chlam PMP; 6.
Pfam; PP02415; ChlamPMP M; 6.
IIGRRAM8; TIGR01414; autotrans barl; 1.
TIGRRAM8; TIGR01414; autotrans barl; 1.
IIGRRAM8; TIGR01416; POMP_repeat; 6.
Complete protecome; Multigene family; Outer membrane; Signal.
SIGNAL
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strain TW-183).
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Matches 303; Conservative 160; Mismatches 407; Indels
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AE001627; AAD18590.1; -;
AE002193; AAF38164.1; -;
BA000008; BAA98654.1; -;
AE017158; AAP98394.1; -;
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PIR; D72078; D72078.
PHCI-2DPAGE; Q9Z393;
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                       GGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEFDGNVARVGGGIYSYGNVAFLNNGKTL
                                              GAIRV--SGSATIENNTGT----CTPSNNNAKE------OGGAISVNGNCDITGNRNVV
                                                                                                                   -----GSVSFDGEGVVFFSSNVAAGKGGAIYAKKLS
                                                                                                                                                                 VANCGPVQFLRNIANDGGAIYLGESGELSLSADYGDIIPDGNLKRTAKEN------
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                                                                      PLINNVASPV----YIAAKQPTSGQASNTSNNYGDGGAIFC-----
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This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the Buropean Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
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MEDLINE=CWLO29 / VR1310;
MEDLINE=CWLO29 / VR1310;
MEDLINE=20007584; PubMed=10539856;
Madsen A.S., Knudsen K., Falk B., Birkelund S.;
Molecular biology of Chlamydia pneumoniae surface proteins and their role in immunopathogenticity.";
Am. Heart J. 138:8491-8495(1999).
-- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
             70.7. Control (Rel. 40, Created)
16-CCT-2001 (Rel. 40, Created)
16-CCT-2001 (Rel. 40, Last sequence update)
11-SEP-2005 (Rel. 48, Last annotation update)
Probable outer membrane protein pmp7 precursor (Polymorphic membrane protein 12).
Name-epmp7, Synonymas-empl2; OrderedLocusNames=CPn0445, CP0308, CpB0462 (Chlamydia pneumoniae (Chlamydophila pneumoniae).
Bacteria; Chlamydophila; Chlamydiaes; Chlamydophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        REDINE_20150255; PubMed=10684935; DOI=10.1093/nar/28.6.1397; Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F., White O., Hickey B.K., Peterson J.D., Utterback T.R., Berry K.J., Bass S., Linher K.D., Weidman J.F., Khouri H.M., Craven B.F., Bowman Dodson R.J., Gwinn M.L., Nelson W.C., DeBoy R.T., Kolonay J.F., McClarty G., Salzberg S.L., Eisen J.A., Fraser C.M.; "Genome sequences of Chlamydia trachomatis Mopn and Chlamydia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=20330349; PubMed=10871362; DOI=10.1093/nar/28.12.2311; Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K., Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.; "Comparison of whole genome sequences of Chlamydia pneumoniae J138 from Japan and CWL029 from USA.";
                                                                                                                                                                                                                                                                         STRAIN=CWL029;
WBDLINE=99206606; PubMed=10192388; DOI=10.1038/7716;
WBDLINE=99206606; PubMed=10192388; DOI=10.1038/7716;
Kalman S., Mitchell W.P., Marathe R., Lammel C.J., Fan J., Hyman R. Colinger L., Grimwood J., Davis R.W., Stephens R.S.;
"Comparative genomes of Chlamydia pneumoniae and C. trachomatis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -i- SIMILARITY: Belongs to the PMP outer membrane protein family -i- SIMILARITY: Contains 1 autotransporter (TC 1.B.12) domain.
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NUCLECTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
STRAIN=TW-183;
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NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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EMBL, AE002193; AAF381.65.1; -;
EMBL, EA000008; BAA98653.1; -;
EMBL, AE017158; ARP98393.1; -;
EMBL, AJ133034; CAB37067.1; -;
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57 YSLLSDV8PQNAGALGIPLASGCFLEAGGDLTFQGNQHALKPAFINAGSSAGTVASTSAA 116
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PTRHGFRHI -> EDNIRYRHN (in Ref. 5).
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19.7%; Score 1040; DB 1; Length 936;
cal Similarity 29.0%; Pred. No. 7.8e-53;
310; Conservative 162; Mismatches 406; Indels 192;
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InterPro; IPR011427; ChlambMP, M.
InterPro; IPR003368; ChlambMP, M.
Pfam; PP02415; Chlam PMP; 7.
Pfam; PP02415; Chlam PMP; 7.
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Q92898, -.
PIR, B81591, E
PIR, C72078, C
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PHCI-2DPAGE, C
TIGR, CP0308;
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MEDLINE=99206606; PubMed=10192388; DOI=10.1038/7716;
MEDLINE=99206606; PubMed=10192388; DOI=10.1038/7716;
MEDLINE=99206606; PubMed=10.1038/3716;
Olinger L., Grimwood J., Davis R.W., Stephens R.S.;
"Comparative genomes of Chlamydia pneumoniae and C. trachomatis.";
Nat. Genet. 21:385-389(1999).
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MEDLINE=Z007584; UnbMed=10539856;
CDristiansen G., Boesen T., Hjerno K., Daugaard L., Mygind P.,
Madsen A.S., Knudsen K., Falk E., Birkelund S.;
"Modecular blology of Chlamydia pneumoniae surface proteins and their role in immunopathogenicity";
Am. Heart J. 138:6491-8495(1999).
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16-OCT-2001 (Rel. 40, Last sequence update)
13-SRP-2005 (Rel. 40, Last annotation update)
13-SRP-2005 (Rel. 40, Last annotation update)
14-SRP-2005 (Rel. 40, Last annotation update)
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Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K.,
Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.;
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[2]
NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-99206666; PubMed-10192388; DOI=10.1038/7716; Kalnan S., Mitchell W.P., Marathe R., Lammel C.J., Fan J., Hyman R.W., Olinger L., Grimwood J., Davis R.W., Stephens R.S.; "Comparative genomes of Chlamydia pneumoniae and C. trachomatis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           533 SW--NNPQV-FSCLTLTADDPANIHITDLAADPLEKNPIHWGYQGNWALSWQEDTATKSK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             686 YILKATWIKTGYNPGPERVASLVPNSLWGSILDIRSAHSAIQASVDGRSYCRGLWVSGVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                805 GSVYLSTQQALCG----SYLFG-----DAFIRASYGFGNOHMKTSYTFAEESDVRW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  852 DNNCLAGRIGAGLPIVITPSKLYLNELRPFVQAEFSYADHESFTEEGDQ-ARAFKSGHLL
                                                                                                                                                                          329 SLSLSALGGDITFEGN---TVVKGAS--SSQTTTRNSINIGNTNAKIVQLRASQGNTIYF
                                                                                                                                                                                                                                                             NDPIEMANGNNQPAQSSKLLKINDGE-----GYTGDIVFA------NGSSTLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                     QPLTLAGGQLSLKSGVTLVAKSPSQSPGSTLLMDAGTTLETADG------ITIN
             VSFDGEGVVFFSSNVAAGKGGAIYAKKLSVANCGPVQFLRNIAND-----GGAIYLGESG
                                                                                                                                        ELSLSADYGDIIFDGNLKRTAKENAADVNGVTVSSQAISMG-SGGKITTLRAKAGHQILF
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Q92899; Q9ARW2;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
13-SRP-2005 (Rel. 48, Last annotation update)
Probable outer membrane protein pmp6 precursor (Polymorphic membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Name=pmp6; OrderedLocusNames=CPn0444, CP0309, CpB0460;
Chlamydia pneumoniae (Chlamydophila pneumoniae).
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            971 VVVRGSMYASLISNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
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Chlamydia pneumoniae J138
                                                                                                                                                                                                                                                                                                                                                                                                             -1- SIMILARITY: Belongs to the PMP outer membrane protein family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  larity 29.5%; Pred. No. 1e-51;
Conservative 161; Mismatches 404; Indels 184;
                                                                                                                                                                                                                                                                                                                                                 -i- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27 928 Probable outer membrane protein
928 AA; 98333 MW; 58910A8F04F12219 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19.4%; Score 1021; DB 1; Length 928; 29.5%; Pred. No. 1e-51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AJ133034; CAB37069.1; -; Genomic_DNA.
EMBL; AE001628; AAD18991.1; -; Genomic_DNA.
EMBL; AE002192; AAP38163.1; -; Genomic_DNA.
EMBL; BA000008; BAA98655.1; -; Genomic_DNA.
EMBL; AE017158; AAP98395.1; -; Genomic_DNA.
PIR; B72077; B72077.
TIGR; CP0306; -.
                                                                                                                           NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
"Comparison of whole genome sequences of
from Japan and CWL029 from USA.";
Nucleic Acids Res. 28:2311-2314(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Interpro; IPR005546; Auto transpibeta.
Interpro; IPR006315; Autotransporter.
Interpro; IPR011427; ChlamPMP_M.
Interpro; IPR00368; Chlamydia_PMP.
Interpro; IPR006626; PDH1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF03797; Autotransporter; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF02415; Chlam PMP; 7.
Pfam; PF07548; ChlamPMP M; 1.
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Matches 313;
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-!- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
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E -> EGCGGAILAFIDSGSVBDKTGLSIANNGEVSLTSNA
YSGGAILAFARKCTLTGNGSLFPDGNTAGTSGGAIYTETED
FTLTGSTGTYTFSTRTAKTGGALYSKGNNGLSGNTNLLFSG
NKATGPSNSSANQE (in Ref. 1 and 4).
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SIGNAL 1 23
                                                                                                                                                     Вомшал
                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=20330349; PubMed=10871362; DOI=10.1093/nar/28.12.2311; MEDLINE=20330349; PubMed=10871362; DOI=10.1093/nar/28.12.2311; Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K., Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.; "Comparison of whole genome sequences of Chlamydia pneumoniae J138 from Japan and CWL029 from USA."!
                             MEDLINE=20150255; PubMed=10684935; DOI=10.1093/nar/28.6.1397; Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F., White O., Hickey B.K., Peterson J.D., Utterback T.R., Berry K.J., Bass S., Linher K.D., Weidman J.F., Khouri H.M., Craven B., Bowman Dodson R.J., Gwinn M.L., Nelson W.C., DeBoy R.T., Kolonay J.F., McClarty G., Salzberg S.L., Bisen J.A., Fraser C.M.; "Genome sequences of Chlamydia trachomatis MoPn and Chlamydia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -1- SIMILARITY: Belongs to the PMP outer membrane protein family.
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                                                                                                                                                                                                                                                                                                                                                                                              NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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EMBL; AE002193; AAF38166.1; -; Genomic_DNA.
EMBL; AE000008; BAA98652.1; -; Genomic_DNA.
EMBL; AE017158; AAP98391.1; -; Genomic_DNA.
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InterPro; IPR005115; Auto_transporter.
InterPro; IPR01427; ChlamPMP M.
InterPro; IPR003368; Chlamydia_PMP.
InterPro; IPR00626; PbH1.
InterPro; IPR00626; PbH1.
Iffam, PF03797; Autotransporter; 1.
Iffam, PF03748; ChlamPMP, 14.
IFfam, PF03748; ChlamPMP M; 1.
IFGRPAMS; TIGR01376; POMP_repeat; 13.
TIGRFAMS; TIGR01376; POMP_repeat; 13.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nucleic Acids Res. 28:2311-2314 (2000).
                                                                                                                                                                                                                                                                                         pneumoniae AR39.";
Nucleic Acids Res. 28:1397-1406(2000)
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PIR; B86546; B86546.
PIR; C81591; C81591.
PHCI-2DPAGE; Q92899; -.
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                                                                                     NGSSGSAAFTAKETSDASGTTYTLTSDVSITNV-SAITPADKSCFTNTGGALSFVGADHS
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                                                                                                                                                                                                                                                                                 SDENLQLENNDOMLFSENTSKEEGGAIYAKKLSIISGGPTLFSNNSTSKAADPKGGAICI 258
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       510 LYQNVTIEQGRIVLREKAKLSVNSLSQTGGSLYMEAGSTWDFVTPQPPQQPPAANQLITL 569
                                                                                                                                             292 YSYGNVAFLNNGKTLFLNNVASPVYIAAKQPTSGQASNTSNNYGDGGAIFCKNGAQAGSN 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            463 VPSTTREFPSIIEAKANGTGTPTIPTTHLTDHAPAAHYGYQGLWTTSWAQGTATTSQLAT
                                                                                                                                                                                                                                                                                                                                                                                  NSGSVSFDGEGVVFFSSNVAAGKGGAIYAKKLSVANCGPVQFLRNIAN-----DGGAIYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 630 DWLGSNQKINVLKLQL-GTKPPANAPSDLTLGNEMPKYGYQGSWKLAWDPNTANNGPYTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    749 YHDRDALGQGYRYISGGYSLGANS-YFGSSMFGLAFTEVFGRSKDYVVCRSNHHACIGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                   QILFNDPIEMANGNNQPAQSSKLLKINDGEG---YTGDIVPA-----NGSST
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                                               RAPIAFVANVAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVBFDGNVARVGGGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TIDAFHLARHGVVVRGSMYASLISNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
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Chlamydia pneumoniae (Chlamydophila pneumoniae).
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | | :|||| :| ||:|| |:: | ||::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| |:::|| 
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FDNNSKLLFKSNCSSEEGGAINCKSLTLKN-SSVC---
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QPRB11 QPRXZ2;
01-MAY-2000 (TYEMBLYE1. 13,
01-CT-2000 (TYEMBLYE1. 15,
13-SEP-2005 (TYEMBLYE1. 15,
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NUCLEOTIDE SEQUENCE
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                                                                                                                                   SCHLINLSVPVGVKFDRCSSTHPNKYSFMAAYICDAYRTISGTETTLLSHQETWTTDAFH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  268;
                                                                                                                                                                                                                                                                 966 LARHGVVVVRGSMYASLISNIBVYGHGRYEYRDASRGYGLSAGSRVRF 1012
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.larity 28.2%; Pred. No. 5.5e-51;
Conservative 144; Mismatches 358; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-JUN-2003 (TrEMBLrel. 24, Last sequence update) 01-MAR-2004 (TrEMBLrel. 26, Last annotation update) Polymorphic outer membrane protein G family
                                                                                                                                                                                                                                                                                                                                                                                                                      866 AA
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GO; GO:0019867; C:outer membrane; IEA.
GO; GO:0019867; C:outer membrane; IEA.
InterPro; IPR005315; Autotransporter.
InterPro; IPR011427; ChlambMP M.
InterPro; IPR011427; ChlambMP M.
Pfam; PF07397; Autotransporter; I.
Pfam; PF07548; ChlamPMP M; I.
TIGRPAMB; TIGR01414; autotrane_barl; I.
TIGRPAMB; TIGR01414; autotrane_barl; I.
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01-JUN-2003 (TrEMBLrel. 24, Last seq
01-MAR-2004 (TrEMBLrel. 26, Last ann
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OrderedLocusNames=CCA00283;
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QB23X0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chlamydophila caviae.
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nes 303; Conserv
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SEQUENCE 866 AA;
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753 DALGOGYRYISGGYSLGANSYFGS-SMFGLAFTEVFGRSKDYVVCRSNHHACIGSVYLST
                                                             -- RASYGFGNQHMKTSYTFAEES
                                                                                                                                                                                     554 LY-----YQHNETYISLPCKLRPCSLSYVPTEIPVLFSGNLSYTHTDNDLKTKYTTYPTV
                                                                                                                                                                                                                                        848 DVRWDNNCLAGEIGAGLPIVITPSKLYLNELRPFVQAEFSYADHESFTEEGDQARAFKSG
                                                                                                                                                                                                                                                                        609 KGSWGNDSFALEFGGRAPICLDESALF-EQYMPFWKLQFVYAHQEGFKEQGTEAREFGSS
                                                                                                                                                                                                                                                                                                                                           908 HLINLSVPVGVKFDRCSSTHPNKYSFMAAYICDAYRTISGTETTLLSHQETWTTDAFHLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein/autotransporter.
OrderedLocuskames=CCA00624;
Chlamydophila caviae.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                              RHGVVVRGSMYASLTSNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
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01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Polymorphic outer membrane protein G family
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RMBL; ARONG624; --; GENOMIC_DNA.

TIGR; CCA00624; --; Genomic_DNA.

TIGR; CCA00624; --; Genomic_DNA.

GO; GO:0019867; C:outer membrane; IRA.

InterPro; IPR06315; Autotranspotter.

InterPro; IPR011427; ChlamPMP M.

InterPro; IPR01368; ChlamPMP M.

InterPro; IPR03368; ChlamPMP M.

Pfam; PF03797; Autotransporter; 1.

Pfam; PF0218; ChlamPMP; 4.

TIGRRAMs; TIGR01414; autotrans barl; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nucleic Acids Res. 31:2134-2147(2003)
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                                                                                                                                   812 QQALCGSYLFGDAFI
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SEQUENCE 841 AA
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| RSKNFSTDNGGAITAKTLSLTGTTMSALFSENTSSKKGGAIQTSDALTITGNGGEVSF-- 60
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EMBL; BA000008; BA99226.1; -; Genomic_DNA.
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18.6%; Score 978.5; DB 2; Length 772;
Best Local Similarity 29.4%; Pred. No. 2.6e-49;
Matches 260; Conservative 142; Mismatches 316; Indels 167; Gaps
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                     MEDLINE=20330349; PubMed=10871362; DOI=10.1093/nar/28.12.2311; Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K., Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.; Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.; "Comparison of whole genome sequences of Chlamydia pneumoniae J138 from Japan and CWL029 from USA."; Nucleic Acids Res. 28:2311-2314(2000).
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TIGRFAMS; TIGRO1376; POMP repeat; 6.
SEQUENCE 772 AA; 82931 MW; 484FC56D635801EB CRC64;
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Pfam; PF03797; Autotransporter; 1.
Pfam; PF07548; ChlamPMP M; 1.
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BULINE-22559155; PubMed=12682364; DOI=10.1093/nar/gkg321;
Read T.D., Myers G.S.A., Brunham R.C., Nelson W.C., Paulsen I.T.,
Heidelberg J.F., Holtzapple E.K., Khouri H.M., Pederova N.B.,
Carty H.A., Umayam L.A., Haft D.H., Peterson J.D., Beanan M.J.,
White O., Salzberg S.L., Hsia R.-C., McClarty G., Rank R.G., 18.4%; Score 971.5; DB 2; Length 841; llarity 27.7%; Pred. No. 7.6e-49; Conservative 132; Mismatches 347; Indels 299; Bavoil P.M., Fraser C.M., "Genome sequence of Chlamydia psittaci 841 AA; 90411 MW; 21A9ED16E0D7C65D CRC64;

Last annotation update)

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TCNGN---VCITYAGKTT-----PLTKSCFTETTENLTFLGQGYSLCFDNITATAK
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                         GAALSNSAADGLFTIEGFKELSFSNCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKT
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DT 16-0CT-2001 (Rel. 40, Last sequence update)

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-1- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
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                    Probable outer membrane protein pmpl precursor (Polymorphic membrane protein 1) (Outer membrane protein 6).

Name-spmpl; Synonyms-omp6; OrderedLocusNames=CPn0005, CP0770, CpB0006; Chlamydia pneumoniae (Chlamydophila pneumoniae)

Bacteria; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamydiae; Chlamyd
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDIINE-99206666; PubMed-10192388; DOI=10.1038/7716;
Kalman S., Mitchell W.P., Marathe R., Lammel C.J., Fan J., Hyman R.
Olinger L., Grimwood J., Davis R.W., Stephens R.S.;
"Comparative genomes of Chlamydia pneumoniae and C. trachomatis.";
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MBDLINE=J0330349; PubMed=106871362; DOI=10.1093/nar/28.12.2311;
MBDLINE=J0330349; PubMed=106871362; DOI=10.1093/nar/28.12.2311;
MBDLINE=J0330349; PubMed=J0400; Tabuchi M., Kishi F., Ouchi K., Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.;
Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.;
Comparison of Whole genome sequences of Chlamydia pneumoniae J138 from Japan and CWL029; From USA.";
Nucleic Acids Res. 28:2311-2314(2000).
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                                                                                                                                                                                                                                                                                                                                                              Christiansen G., Boesen T., Hjerno K., Daugaard L., Mygind P., Madeen A.S., Knudsen K., Falk E., Birkelund S.; Modecular biology of Chlamydia pneumoniae surface proteins and role in immunopathogenicity.
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NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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EMBL; AE001585; AAD18163.1; -; Genomic_DNA.

EMBL; BA002237; AAF38570.1; -; Genomic_DNA.

EMBL; BA00108; BAA98215.1; -; Genomic_DNA.

PIR; B72131; B72131.

PIR; E86491; E86491.
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InterPro; IPR005546; Auto_transptbeta.
InterPro; IPR011427; ChlamPMP M.
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Nucleic Acids Res. 28:1397-1406(2000)
                                                                                                                                                                                                                                                                                               STRAIN=CWL029 / VR1310;
MEDLINE=20007584; PubMed=10539856;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Heart J. 138:8491-8495 (1999).
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Pfam; PF02415; Chlam PMP; 3
Pfam; PF07548; ChlamPMP M;
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31 MVPQGIYDGETLTV8FPYTVIGDPSGTTVFSAGELTLKNLDNSIAALPLSCFGNLLGSFT
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Matches 295; Conservative 144; Mismatches 380; Indels 236;
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STRAIN=526/3;

R. PubMed=15837807; DOI=10.1101/gr.3684805.

Thomson N.R., Yeats C., Bell K., Holden M.T.G., Bentley S.D.,
Livingstone M., Cerdeno-Tarraga A. M., Harris B., Doggett J.,
Livingstone M., Cerdeno-Tarraga A. M., Harris B., Doggett J.,
Livingstone M., Cerdeno-Tarraga A. M., Harris B., Doggett J.,
Livingstone M., Cardeno-Tarraga A. M., Harris B., Doggett J.,
Armond D., Mungall K., Clarke K., Feltwell T., Hance Z., Sanders M.,
Quail M.A., Price C., Barrell B.G., Parkhill J., Longbottom D.;
The Chlamydophila abortus genome sequence reveals an array of
Gonome Res. 15:629-64 (2005).

R. RMBL, U65942; AAC15241.1; -; Genomic DNA.
R. RMBL, CR848038; CAHS3731.1; -; Genomic DNA.
GO, GO:0019867; C:outer membrane; IRA.
RINEE-PRO; IPR005546; Auto transpibeta.
R. InterPro; IPR005368; Chlamphile M.
R. InterPro; IPR003368; Chlamphile M.
R. InterPro; IPR003368; Chlamphile M.
R. InterPro; IPR003368; Chlamphile M.
R. InterPro; IPR00348; Chlamphile M.
R. Pfan; PF03797; Autotransporter; 1.
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660 NEITPKHYTSMAFSQLFSRDKDYAVSNNEYR-----MYL-----GSYLYQYTTSLGNI
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"Molecular cloning and characterization of the genes coding for the
highly immunogenic cluster of 90-kilodalton envelope proteins from t
Chlamydia psittaci subtype that causes abortion in sheep.";
Infect. Immun. 66:1317-1324(1998).
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Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
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P71132, Q5L6J4;
D01-FRB-1997 (TrEMBLrel. 02, Created)
01-FRB-1997 (TrEMBLrel. 02, Last sequence update)
13-SRP-2005 (TrEMBLrel. 31, Last annotation update)
POMP91A (Polymorphic outer membrane protein).
Name-pmp13G; Synonyms=pomp91A; OrderedLocusNames=CAB281;
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IIGRFAMs; IIGR01376; POMP_repeat; 3.
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LSAGSRVRF 1012
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NCBI_TaxID=83555;
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                       Query Match
18.0%; Score 950; DB 2; Length 847;
Best Local Similarity 27.4%; Pred. No. 1.5e-47;
Matches 282; Conservative 145; Mismatches 332; Indels 270;
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"Molecular cloning and characterization of the genes coding for the highly immunogenic cluster of 90-kilodalton envelope proteins from the Chlamydia psittaci subtype that causes abortion in sheep.";
Infect. Immun. 66:1317-1324(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MQTSFHKFFLSMILAYSCCSLNGGGYAARIMVPQGIYDGBTLTVSFPYTVIGDPSGTTVF
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DOI=10.1101/gr.3684805;
A Thomson N.R., Yeats C., Bell K., Holden M.T.G., Bentley S.D.,
Thomson N.R., Veats C., Bell K., Holden M.T.G., Bentley S.D.,
Livingstone M., Cerdeno-Tarraga A.-M., Harris B., Doggett U.
A Ormond D., Mungall K., Clarke K., Feltwell T., Hance Z., Sanders M.,
A Ormond D., Mungall K., Carke M., Pertwell T., Hance Z., Sanders M.,
A Quail M.A., Price C., Barrell B.G., Parkhill J., Longbottom D.;
The Chlamydophila abortus genome sequence reveals an array of
variable proteins that contribute to interspecies variation.";
Genome Res. 15:629-640(2005).
REMBL, U65942; AAC15924.1; -; Genomic DNA.
REMBL, U65942; AAC15924.1; -; Genomic DNA.
REMBL, CR848038; CAH64045.1; -; Genomic DNA.
REMBL, CR848038; CAH64045.1; -; Genomic DNA.
REMBL, CR848038; CAH6A045.1; -; Genomic DNA.
REMBL, CR848038; CAH6A045.1; -; Genomic DNA.
RICEPTO; IPRO16515; Autotranspotter.
RICEPTO; IPRO16515; Autotranspotter.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
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CEGNVCI-SPAGKDSGLKKSCF-SATDNLTFLGNGYTLCFDNITTTASNPGAINVGGQGK 115
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                                                                                              SPYSNLVSGDGGAIDAKSLTVQGISKLCVPQENTAQADGGACQVVTSPSAMANBAPIAFV
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PMP2 CHLPN STANDARD; Q923Ā1; Q9RB73; 16-OCT-2001 (Rel. 40, Created)

RESULT 23
PMP2_CHLPN

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This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
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"The genome sequence of Chlamydia pneumoniae TW183 and comparison with other Chlamydia strains based on whole genome sequence analysis.";
Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
-- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
                                              membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=20150255; PubMed=10684935; DOI=10.1093/nar/28.6.1397; Medaed T.D., Brunham R.C., Shen C., Glil S.R., Heddelberg J.F., White O., Hickey B.K., Peterson J.D., Utterback T.R., Berry K.J., Bass S., Linher K.D., Weidman J.F., Khouri H.M., Craven B., Bowman J.E., Chouri H.M., Craven B., Bowman Jodson R.J., Gwinn M.L., Nelson W.C., DeBoy R.T., Kolonay J.F., McClarty G., Salzberg S.L., Bisen J.A., Fraser C.M.; Praser C.M.; Genome sequences of Chlamydia trachomatis Mopn and Chlamydia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=20330349; PubMed=10871362; DOI=10.1093/nar/28.12.2311; Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K., Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.; Comparison of Whole genome sequences of Chlamydia pneumoniae J138 from Japan and CWL029 from USA.";
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-!- SIMILARITY: Belongs to the PMP outer membrane protein family.
-!- CAUTION: Ref.4 and Ref.5 sequences differ from that shown due
                                                                                     Name-pmp2; Synonyms-omp7; CP0761, CpB0015/CpB0016; CoderedLocusNames-CPn0013; CP0761, CpB0015/CpB0016; Chlamydia pneumoniae (Chlamydophila pneumoniae).
Bacteria, Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
                                                                                                                                                                                                                                                              MEDLINE=20007584; PubMed=10539856;
Christiansen G., Boesen T., Hjerno K., Daugaard L., Mygind P.,
Madeen A.S., Knudsen K., Falk E., Birkelund S.;
"Molecular biology of Chlamydia pneumoniae surface proteins and role in immunopathogenicity.";
Am. Heart J. 138:8491-8495(1999).
  16-OCT-2001 (Rel. 40, Last sequence update)
10-MAY-2005 (Rel. 47, Last annotation update)
Probable outer membrans protein pmp2 precursor (Polymorphic protein 2) (Outer membrane protein 7),
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EMBL; AE001586; AAD18172.1; -; Genomic DNA.
EMBL; AR002235; AAF38561.1; -; Genomic DNA.
EMBL; BA000008; BA98223.1; ALT FRAME; Genomic DNA.
EMBL; AS017157; AAP97948.1; ALT FRAME; Genomic DNA.
EMBL; AE017157; AAP97949.1; ALT FRAME; Genomic DNA.
                                                                                                                                                                                                                                                                                                                                                                                                     [2]
NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
STRAIN=CWL029;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             [5]NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
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NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            pneumoniae AR39.";
Nucleic Acids Res. 28:1397-1406(2000).
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                                                                                                                                                                                                                                                   / VR1310;
                                                                                                                                                                                                    [1] TOUCLEOTIDE SEQUENCE
                                                                                                                                                                                NCBI_TaxID=83558;
                                                                                                                                                                                                                                                STRAIN=CWL029
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-J138;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN=AR39;
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Longbottom D., Russell M., Dunbar S.M., Jones G.E., Herring A.J.;
Longbottom D., Russell M., Dunbar S.M., Jones G.E., Herring A.J.;
"Molecular cloning and characterization of the genes coding for the
highly immunogenic cluster of 90-kilodalton envelope proteins from the
Chlamydia psittaci subtype that causes abortion in sheep.";
Infect. Immun. 66:1317-1324(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           91 VLGRGHSLIPENIRT-STNGAALSNSAADGLFTIEGFKELSFSNCNSLLAVLPAATTNKG
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                                                                                                                                                                                     -TFAERSDVRWDNNCLAGEIGAGLPIVITPSKLYLNELRPFVQAEFSYADHESFTEEGDQ
                                                                                                                                                                                                                                                                                             ARAFKSGHLLNLSVPVGVKFDRCSSTHPNKYSFMAAYICDAYRTISGTETTLLSHQETWT
                                                                                                                             LRLQHDASLYSVVSILLGEGGLREILLPYVSKTLPCSFYGQLSYGHTDHRMKTESLPPPP
                                                                                                                                                                                                                                        PTLSTD-HTSWGGYVWAGELGTRVAVENTSGRGFFQEYTPFVKVQAVYARQDSFVELGAI
----ASYGFGNQHMKTSY----
                                                                                                                                                                                                                                                                                                                                                                                                          TDAFHLARHGVVVRGSMYASLTSNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chlamydophila abortus.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
NCBI_TaxID=83555;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tch 17.0%; Score 897; DB 2; Length 846; al Similarity 27.0%; Pred. No. 2e-44; 278; Conservative 133; Mismatches 353; Indels 264;
                                                                                                                                                                                                                                                                                                                                                                                                                                   POMP91B.
4CDC31DC03C2964B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Last sequence update)
Last annotation update)
                                                                                   VYLSTQQALCG--SYLFGDAFIR------
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-FBB-1997 (TrEMBLrel. 02, 01-MAR-2004 (TrEMBLrel. 26,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CHLAB PRELIMINARY;
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                                                                                                                                                                                                                                                                            Complete protecome, Membrane, Multigene family, Outer membrane, Signal SIGNAL 1 24 Potential.
                                                                                                                                                                                                                                                                                                                                       Probable outer membrane protein pmp2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    291;
                                                                                                                                                                                                                                                                                                                                                                                                                                              17.8%; Score 939.5; DB 1; Length 841; 27.0%; Pred. No. 6e-47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
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841 AA; 89601 MW; 9064D60D0678D24C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    289; Conservative 134; Mismatches 358;
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                                                                TIGR; CP0761; -.
InterPro; IPR005546; Auto_transptbeta.
                                                                                                               InterPro; IPR011427; ChlamDMP M.
InterPro; IPR003368; ChlamDMP M.
Pfam; PP03797; Autorzansporter; 1.
Pfam; PP07415; Chlam PMP; 4.
Pfam; PP07548; ChlamPMP M; 1.
TIGRFAMS; TIGR01376; POMP_repeat; 3.
                                            Q9Z3A1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                   PIR; E72130; E
PHCI-2DPAGE; C
TIGR; CP0761;
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Best Local S
Matches 289
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=22569155; PubMed=12682364; DOI=10.1093/nar/gkg321;
Read T.D., Myers G.S.A., Brunham R.C., Nelson W.C., Paulsen I.T.,
Heidelberg J.P., Holtzapple B.K., Khouri H.M., Federova N.B.,
Carty H.A., Umayam L.A., Haft D.H., Peterson J.D., Beanan M.J.,
White O., Salzberg S.L., Haft D.H., Peterson J.D., Beanan M.J.,
Bavoil P.M., Fraser C.M.;
"Genome sequence of Chlamydophila caviae (Chlamydia psitraci GPIC):
examining the role of niche-specific genes in the evolution of the
Chlamydiaceae.";
Nocleic Acids Res. 2312134-2147(2003)
Polymorphic outer membrane protein G family protein/autotransporter,
                                                                                                                                                                                                                                                                  Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila
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Matches 270; Conservative 137; Mismatches 361; Indels 300;
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TC0267;
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                                                                                                                                                                                                                     808 YLSTQQAL--CGSYLFG------DAFIRASYGFGNOHMKTSYTFAE
                                                                                                                                                                                                                                                                                  SGHLLINLSVPVGVKPDRCSSTHPNKYSPMAAYICDAYRTISGTETTLLS-HQETWTTDAF
                                                                                                                                                                                                                                                                                                                           749 YHDRDALGQGYRYISGGYSLGAN-SYFGSSMFGLAFTEVFGRSKDYVVCRSNHHACIGSV
                                                                                                                                                                                    619 YAHHSRYLLPITRFLAGTSRSQPRFLSRIPKDPPINFDALI--SYSYGRNHMKVKYADHS
                                                                                                                                        NPPAQDSHPAVIGSTTAGSVT1SGP1PPEDLDDTAYDRYDWLGSNQKINVLKLQLGTKPP
                                                                                            651 ANAP--SDLTLGNEMP-----KYGYQGSWKLAWDP-----NTANNGPYTLKATW
                                                                                                                            693 TKTGYNP----GPERVASLVPNSLWGSILDIRSAHSAIQASVDGRSYCRGLWVSGVSNFF
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BEDLINE-20150255; PubMed=10684935; DOI=10.1093/nar/28.6.1397;

Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,

White O., Hickey E.K., Peterson J.D., Utterback T.R., Berry K.J.,

White S., Linher K.D., Weidman J.F., Khourt H.M., Craven B., Bowman

Bodson R.J., Gwinn M.L., Nelson W.C., DeBoy R.T., Kolonay J.F.,

McClarty G., Salzberg S.L., Eisen J.A., Fraser C.M.;

"Genome sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -i- SIMILARITY: Belongs to the PMP outer membrane protein family.
358 KSPEQNQKSLLFMHPGT------RLQTTNNL-SIRNLHLDLSKIAA-TAV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          pneumoniae AR39.";
Nucleic Acids Res. 28:1397-1406(2000).
-!- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
                                                                                                                                                                                                                                                                                                                                                             HLARHGVVVRGSMYASLTSNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
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NCBI_TaxID=83560;
                                                                                                                                                                                                                                                                                                                                                                         16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
10-MAY-2005 (Rel. 47, Last annotation update)
Probable outer membrane protein pmpI precursor
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PIR; F81721; F91721.
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Name-pmpI; OrderedLocusNames=TC0267;
Chlamydia muridarum.
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371 AAGKGGALYAKKLSVANCGPVQFLRNIANDGGALYLGESGELSLSADYGDIIFDGNLKRT 430
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62 ARQDDPLYIIGNT-----HNWFVSNLHPSTNEERFLKEKGD--LSIQDFRFLSFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      133 NCNSLLAVLPAATTNKGSQTPTTTSTPSNGTIYSKT-DLLLLNNEKFSFYSNLVSGDGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        110 DCSS------STEDSPS--ILYHKNGQLFLRNNGNMSFYRNHSEGSGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          311 VASPVYIAAKQPTSGQASNTSNNYGDGGAIFCKNGAQAGSNNSGSVSFDGEGVVFFSSNV
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InterPro; IPR005546; Auto transptbeta.
InterPro; IPR011427; ChlamPMP M.
InterPro; IPR01348; Chlamydia_PMP.
Pfam; PP03797; Autotransporter; 1.
Pfam; PP03415; Chlam_PMP; 6.
Pfam; PP07548; Chlam_PMP; 6.
TIGRFAM9; TIGR01376; POMP_repeat; 6.
TIGRFAM9; TIGR01376; POMP_repeat; 6.
SIGNAL
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9 CC-----LCATILSPTAILFGQD-ALDKSALITKNPNSIVCTFLEDCTMENFSPALLSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         78 ----PLSCPGNLLGSPTVLGRGHSLTFENIRTSTNGAALSNSAADGLFTIEGFKELSPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            252 VQDGQQGVSSSTSTEDPVVSPSRN-TAVEFDGNVARVGGGIYSYGNVAFLNNGKTLFLNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                431 AKENAADVNGVTVSSQAISMGSGGKITTLRAKAGHQILFNDPIEMANGNNQPAQSSKLLK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCSLNGGGYAARIMVPQGIYDGETLTVSFPYTVIGDPSGTTVFSAGELTLKNLDNSIAAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 26.1%; Pred. No. 5.2e-38;
Matches 268; Conservative 148; Mismatches 411; Indels 200;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Probable outer membrane protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          867 AA; 95018 MW; 557994185A9E5652 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               867
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919 KFDRCSSTHPNKYSFMAAYICDAYRTISGTETTLL--SHQETWTTDAFHLARHGVVVVRGS 976
                                                                                                                                                                                                                                                                                                                                                                                                                                        SLIFENIRISTNGAALSNSAADGLFTIEGFKELSFSNCNSLLAVLPAATTNKGSQIPTTT 156
                                                                                                                                                  388 WQNILLQSTIGARAPLVINAQLTYCHASNNAMTNAMTNYTVPKNVTLSEIKGDWGNDCFGVE
                                                                                                                                                                                                                                                 960 IGAGLPIVITPSKLYLNELRPFVQAEFSYADHESFTE-BGDQARAFKSGHLLNLSVPVGV
                                                                                                          812 QQALCGSYLFGDAFI----RASYGFGNQHMKTSYT-----FAEESDVRWDNNCLAGE
                                                                                                                                                                                                                                                                                             448 PGAMAPIE-TPSSFLFDRYSPFLOLOLOVHAHODDFKENNSDOGRYFESSNLTNLSMPIGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           || || || : || || SLIPEDIISTAQGAAIS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Polymorphic outer membrane protein G family protein/autotransporter,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-CPIC;
MEDLINE-2569155; PubMed=12682364; DOI=10.1093/nar/gkg321;
Read T.D., Myers G.S.A., Brunham R.C., Nelson M.C., Paulsen I.T.,
Heidelberg J.P., Holtzapple B.K., Khouri H.M., Federova N.B.,
Carty H.A., Umayam L.A., Haft D.H., Peterson J.D., Beanan M.J.,
White O., Salzberg S.L., Hsia R.-C., McClarty G., Rank R.G.,
"Genome sequence of Chlamydophila caviae (Chlamydia psittaci GPIC):
examining the role of niche-specific genes in the evolution of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OrderedLocusNames=CCA00280;
Chlamydophila caviae.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
NCBI_TaxID=83557;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              281,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 843;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   90476 MW; 0BB240F4687AFC7A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   977 MYASLTSNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14.9%; Score 785.5; DB 2;
llarity 26.1%; Pred. No. 8.1e-38;
Conservative 131; Mismatches 351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nucleic Acids Res. 31:2134-2147(2003).

EMBL; AE016995; AAP05031.1; -; Genomic_DNA.

TIGR; CCA00299; .

GO, GO:0019867; C:outer membrane; IEA.

InterPro; IPR005546; Auto_transpibeta.

InterPro; IPR01427; ChlamPMP M.

InterPro; IPR00368; ChlamPMP M.

InterPro; IPR00368; ChlamPMP.
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TIGRFAMS; TIGR01376; POMP_repeat; 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Created)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF02415; Chlam_PMP; 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUN-2003 (TrEMBLrel. 24, 01-JUN-2003 (TrEMBLrel. 24, 01-MAR-2004 (TrEMBLrel. 26,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHLCV PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUCLEOTIDE SEQUENCE.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
es 270; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TNTE-----IBLNKAEGGSTTYTGKIVFSGEKLSDERKKVADNLKSYFTQPLKIGAGSL 110
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     581 ANNAVINPPINPPAQDSHPAVIGSTTAGSVTISGPIFFEDLDDTAYDRYDWLGSNQKINV 640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGGGVAPDPAKVRAQAS-----GKT----VTINA-VNLVDTDGNAYE-YPILATSQPFTA 209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LKLQLGTKPPANAPSDLTLGNBMP--KYGYQGSWKLAWDPNTANNGPYTLKATWTKTGYN 698
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                                        886 FSYADHESFTEEGDQARAFKSGHLLNLSVPVGVKFDRCSSTHPNKYSFMAAYICDAYRTI
                                                                                                                                                                               SGTETTLLSHQETWTTDAPHLARHGVVVRGSMYASLTSNI EVYGHGRYEYRDASRGYGLS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PGPERVASI VPNSLWG9I LDIRBAHSAIQAS VDGRSYCRGLWVSGVSNFFYHDRDALGQG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-MAR-2002 (TrEMBLrel. 20, Created)
01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
11-MAR-2004 (TrEMBLrel. 26, Last annotation update)
12-MAR-2004 (TrEMBLrel. 26, Last annotation update)
13-Martative polymorphic membrane protein (Fragment).
13-Martative polymorphic membrane protein (Fragment).
14-Martation (Alamydiae) (Alamydiales) (Alamydiaceae) (Alamydophila.
16-MARTATID=83554)
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Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
EMBL, AP243418; AAL36952.1; -; Genomic_DNA.
GO; GO:0019867; C:outer membrane; IEA.
InterPro; IPR005315; Autotransporter.
InterPro; IPR01545; Autotransporter.
InterPro; IPR01147; ChlamPNP M.
Pfam; PF03797; Autotransporter; 1.
Pfam; PF03797; Autotransporter; 1.
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Q8VU49;
01-MAR-2002 (TYEMBLREL: 20,
01-MAR-2002 (TYEMBLREL: 20,
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EMBL; CR848038; CAH63729.1; -; Genomic_DNA.
                       Chlamydophila abortus.
Racteria: Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
14.9%; Score 785; DB 2; Length 849;
Best Local Similarity 24.6%; Pred. No. 8.7e-38;
Matches 257; Conservative 146; Mismatches 340; Indels 300;
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Name=pmp11G; OrderedLocusNames=CAB278;
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                                                     Bacteria; Chlamyo
NCBI_TaxID=83555;
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                                     DGNVARVGGGIYSYGNVAFLNNGKTLFLNNVASPVYIAAKQPTSGQASNTSNNYGDGGAI
                                                                                                     ----SNLICSGNV------NPLFF------TGNSATNGGAI
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Gomes J.P., Borrego M., Dean D.;

Poylogenetic analysis of pmp's genes of Chlamydia trachomatis.";

Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.

EMBL; AY299443; AAQ74459.1; -; Genomic_DNA.
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Chlamydia trachomatis.
Bacteria; Chlamydiae; Chlamydiales; Chlamydia.
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Last annotation update)
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GTRAIN=TW-3, TW-448, TW-5, and Apache-2;
GTRAIN=TW-3, TW-448, TW-5, and Apache-2;
GTRAIN=TW-3, TW-448, TW-5, and Apache-2;
A Gomes J.P., Borrego M., Dean D.;
R COMEL, AX299431, AX29442;
R EMBL; AX299442; AAQ74446.1; -; Genomic DNA.
R EMBL; AX299428; AAQ74448.1; -; Genomic DNA.
R EMBL; AX299429; AAQ74445.1; -; Genomic DNA.
R EMBL; AX299429; AAQ74445.1; -; Genomic DNA.
R Interpro; IPR01542; Auto_transptbeta.
R Interpro; IPR01368; Chlamydia_PMP.
R Pfam; PP03797; Autoransporter; 1.
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Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydia.
NCBI_TaxID=813;
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TIGRPAMs; TIGR01376; POMP repeat; 6.
SEQUENCE 878 AA; 95489 MW; 9E7611D9B0B636F7 CRC64;
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1larity 26.5%; Pred. No. 9.8e-38;
Conservative 146; Mismatches 392;
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Q4VWS6;
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                                                                                                                                                                                                                                                                       -----SNLICSGNV------NPLRP------TGNSATNGGAI 233
                                                                                                                                                                                                                                                                                               PCKNGAQAGSNNSGSVSFDGEGVVFFSSNVAAGKGGAIYAKKLISVANCGPVQFLRNIAND 400
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                                                                DPSGTTVPSAGELTLKNLDNSIAALPLSCFGNLL------GSFTVLGRGHSLTFE 101
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        727 QASVDGRSYCRGLWVSGVSNFFY-HDRDALG-QGYRYISGGYSLGANSY-FGSSMFGLAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PARESDVRWDNNCLAGEIGAGLPIVITPSKLYLNELRPFVQAEFSYADHESFTEEGDQAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   556 PPQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDSHPAVIGSTTAGSVTISGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     486 NLSIQKIFLSNSGDENFYENVELLSKEON-NIPLLTL----SKEOSHLHLPDGNLSSHF
                                                                            DPLGETA-----LLTKNPNHVVCTFFEDCTMESLFPALCAHASQDDPLYVLGNSYCWFVS
                                                                                                                                                                                                                     281 DGNVARVGGGIYSYGNVAFLNNGKTLFLNNVASPVYIAAKQPTSGQASNTSNNYGDGGAI
                                                                                                                                                                                                      221 QVVTSFSAMANEAPIAFVANVAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEF
                                            Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           207;
                    Length 878;
                 tch
al Similarity 26.6%; Pred. No. 1.5e-37;
269; Conservative 146; Mismatches 388; Indels
CA385BFC8BAC1C17 CRC64;
95629 MW;
 878 AA;
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                     Query Match
Best Local &
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SEQUENCE
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Matches
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401 GGAIYLGESGELSLSADYGDIIFDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLR 460
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GYQGSWKLAWDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGSILDIRSAHSAI 726
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26 DPLGETA-----LLIKNPNHVVCTPFBDCTMESLFPALCAHASQDDPLYVLGNSYCWFVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120 -IIHOKNGOLSLRNNGSMSFCRNHAEGSGGAISADAFSLÖHNYLFTAFEENSSKGNGGAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     341 PCKNGAQAGSNNSGSVSFDGEGVVFFSSNVAAGKGGAIYAKGLSVANCGPVQFLRNIAND
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Gomes J.P., Borrego M., Dean D.;

Gomes J.P., Borrego M., Dean D.;

FplyLogenetic analysis of pmp's genes of Chlamydia trachomatis.";

Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.

EMBL; AY299432; AAQ7448.1; -; Genomic DNA.

SEQUENCE 878 AA; 95569 MW; 30907BB9BBADF659 CRC64;
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al Similarity 26.6%; Pred. No. 1.9e-37;
269; Conservative 146; Mismatches 388; Indels 207;
                                                                                                                                                                  Namë=pmpl;
Chlamydia trachomatis.
Bacteria; Chlamydiae; Chlamydiales; Chlamydia.
                       044W83;
13-5EP-2005 (TrEMBLrel. 31, Created)
13-5EP-2005 (TrEMBLrel. 31, Last sequence update)
13-5EP-2005 (TrEMBLrel. 31, Last annotation update)
Polymorphic membrane protein I.
CHLTR PRELIMINARY;
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344 ARNG-DILFFDDIVQESSSKESPLPSSLQASVTSPTPATASPLVIQTSANRSVIFSSERL
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                                                                                                                                                                                                       -----NGSSTLYQNVTIEQGRIVLREKAKLSVNSLSQTGGS-LYMEAGSTWDFVTPQ
                                                                                                                                                                                                                                  556 PPQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDSHPAVIGSTTAGSVTISGP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          86 NLSIQKIFLSNSGDENFYENVELLSKEQN-NIPLIT----SKEQSHLHLPDGNLSSHF
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Gomes J.P., Borrego M., Dean D.;

Gomes J.P., Borrego M., Dean D.;

"Phylogenerit analysis of pmp's genes of Chlamydia trachomatis.";

Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.

EMBL; AX299437; AAQ74453.1; -; Genomic_DNA.

EMBL; AX299435; AAQ74451.1; -; Genomic_DNA.

SRQUENCE 878 AA; 95568 MW; BOFDF9ACB8A333AB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    962 DAFHLARHGVVVRGSMYASLISNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
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Chlamydia trachomatis.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydia.
NCBI_TaxID=813;
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13-SEP-2005 (TrEMBLrel. 31, Last sequence update)
13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
Polymorphic membrane protein 1.
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Q4VWR8;
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O4VWR8 CHITR
D Q4VWR8 CD
D 13-SEP-2
DT 13-SEP-2
DT 13-SEP-2
DT 13-SEP-2
DT 13-SEP-2
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GYQGDWTFSW--KDSDEG-HSLIANWTPKNYVPHPERQSTLVANTLWNTYSDMQAVQSMI
                                                                                                     597 NTTAHGGAYLFGTWGSAVSNLFYAHDSSGKPIDNWHHRSLGYLFGISTHSLDDHSFCLAA
                                                                                                                                                                                                                                                                                                                        QASVDGRSYCRGLWV8GVSNFFY-HDRDALG-QGYRYISGGYSLGANSY-FGSSMFGLAF
                                                                                                                                                                         TEVFORSKDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDAFIRASYGFGNQHMKTSY-T
                                                                                                                                                                                                                            GOLLGKSSDSFITSTE----TTSYIATVQAQLATSLM-KISAQACYNESIHELKTKYRS
                                                                                                                                                                                                                                                                                       FARESDVRWDNNCLAGEIGAGLPIVITPSKLYLNELRPFVQAEFSYADHESFTEEGDQAR
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Gomes J.P., Borrego M., Dean D.;
Gomes J.P., Borrego M., Dean D.;
Gomes J.P., Borrego M., Dean D.;
Gomes J.P., Borrego M., Dean D.;
Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AY299427; AAQ74443.1; -; Genomic_DNA.
SROUENCE 878 AA; 95538 MW; 33F3F4BF118AEECB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      963 AFHLARHGVVVRGSMYASLTSNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
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14.8*; Score 779.5; DB 2; Length 878;
Best Local Similarity 26.6*; Pred. No. 1.9e-37;
Matches 269; Conservative 148; Mismatches 385; Indels 209;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chiamydia trachomatis.
Bacteria, Chlamydiae, Chlamydiales; Chlamydiaceae, Chlamydia
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13-9EP-2005 (TrEMBLrel. 31, Last sequence update)
13-8EP-2005 (TrEMBLrel. 31, Last annotation update)
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Q4VWS8;
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                                                                                                                                                             PCKNGAQAGSNNSGSVSPDGEGVVPPSSNVAAGKGGAIYAKKLSVANCGPVQPLRNIAND 400
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                                                                                                                                                                                                                                       AKAGHQILENDPI-EMANGNNQPAQSSKLLKINDGEGYTG------DIVPA---
                                                                                                                                                                                                                                                   -----IPPEDL-DDTAYDRYDWIGSNOKINVLKLOLGTKPPANAPSDLTLGNEMPKYGY
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                                                                                                                                                                                                                                                                             -----NGSSTLYQNVTIEQGRIVLREKAKLSVNSLSQTGGS-LYMEAGSTWDFVTPQ
                                                                                                                                                                                                                                                                                       -----tktssdiklatisiplhsl------breksvtihap
                                                                                                                                                                                                                                                                                                                  556 PPQQPPAANQLITLSNIHLSLSSLLANNAVTNPPTNPPAQDSHPAVIGSTTAGSVTISGP
                                                          NIRTSTNGAALSNSAADGLPTIEGPKELSPSNCNSLLAVLPAATTNKGSQTPTTTSTPSN
                            -----KESSPS-
                                              GTIYSKT-DLLLLINNEKFSFYSNLVSGDGGAIDAKSLTVQGISKLCVFQENTAQADGGAC
                                                                                   QVVTSPSAMANEAPIAFVANVAGVRGGIAAVQDGQQGVSSSTSTEDPVVSPSRNTAVEP
                                                                                                                         DGNVARVGGGIYSYGNVAFLNNGKTLFLNNVASPVYIAAKQPTSGQASNTSNNYGDGGAI
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415 IFAD-QETFYNHHA-LAHNVDQELLQL-----ADKDITKISLVDVPESVRENLDAH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----STLYQNVTIEQGRIVLREKAKLSVNSLSQTGGS-LYMEAGSTWDFVTPQPP
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                                                                                                                   Gaps
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Polymorphic outer membrane protein.
Name=pmpl0G; OrderedLocusNames=CAB277;
Chlawydophila abortus.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
                                                                                                                                                                                                                                                                                                                                                                                                                  Length 840;
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14.7%; Score 773.5; DB 2;
Best Local Similarity 25.0%; Pred. No. 4.1e-37;
Matches 260; Conservative 134; Mismatches 350;
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268 GGAIAIQSGGSLSILAGEGSVLFQNNSQRTSDQGLVR-NAIYLEKDAI-----LSSLE 319
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGAIYLGESGELSLSADYGDIIFDGNLKRTAKENAADVNGVTVSSQAISMGSGGKITTLR 460
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              462 NLSIQKIFLSNSGDENFYENVELLSKEQN----NIPLLTLPKEQSHLHLPDGNLSSHFGY
                QVVTSFSAMANEAPIAFVANVAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEF
                                                                                                                                                                           281 DGNVARVGGGIYSYGNVAFLNNGKTLFLNNVASPVYIAAKQPTSGQASNTSNNYGDGGAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       556 PPQQPPAANQLITLSNLHLSLSSLLANNAVTNPPTNPPAQDSHPAVIGSTTAGSVTISGP
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16-OCT-2001 (Rel. 40, Last sequence update)
10-MAY-2005 (Rel. 47, Last annotation update)
Probable outer membrane protein pmpl precursor (Polymorphic membrane
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Names-pmpI) orderedLocusNames=CT874;
Chlamydia trachomatis.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydia.
NCBI_TaxID=813;
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NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
STRAIN=D/UW-3/Cx;
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MEDLINE=2443673; PubMed=12595433;

DOI=10.1128/IAI.71.3.1200-1208.2003;

Scothard D. R., Tort G.A., Battetger B.R.;

Stochard D. R., Tort G.A., Battetger B.R.;

Alecanorphic membrane protein Has evolved in parallel with the three disease-causing groups of Chlamydia trachomatis.";

Infect. Immin. 7:1200-1208(2003).

Infect. Immin. 7:1200-1208(2003).

REMBL, AXIA4171, AAC29988.1; -, Genomic DNA.

GO; GO:0019867; C:outer membrane; IRA.

RICEPTO; IPRO05546; Auto transpibeta.

RICEPTO; IPRO03569; ChlampMp M. I.

Rema; PRO7548; ChlampMp M. I.

REMBL PRO7548; ChlampMp M. I.

REMBL PRO7548; ChlampMp M. I.

REMBL PRO7548; ChlampMp M. I.

REMBL PRO7548; ChlampMp M. I.

REMBL PRO7548; ChlampMp M. I.

REMBL PRO7548; ChlampMp M. I.
-----PIRASYGFGNQHMKTSYTFAEESDVR----WDNNCLAGEIGAGLPIVITPSK 872
                                                                                                                                                                                                                                                                                                                                               642 QASPCIPVIFNAQLSYSHSH--NNLTIAHEDQTXTTGNWSNYSVATELGSTFVYTLSKCP 699
                                                                                                                                                                                                                                                                                                                                                                                                                                                        873 LYLNELRPFVQARPSYADHESFTEEGDQARAFKSGHLLNLSVPVGVKFDRCSSTHPNKYS 932
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                                                                                                                             GSSMFGLAFTEVFGRSKDYVVCRSNHHACIGSVY---LSTQQALCGSYLFGDA-----
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14.6%; Score 771.5; DB 2; Length 846;
Best Local Similarity 26.4%; Pred. No. 5.5e-37;
Matches 264; Conservative 145; Mismatches 388; Indels 203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-701-1003 (TrEMBLrel. 24, Created)
01-70N-2003 (TrEMBLrel. 24, Last sequence update)
01-70N-2004 (TrEMBLrel. 26, Last annotation update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Polymorphic membrane protein I (Fragment).
Name=pmpl;
Name=pmpl;
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceee; Chlamydia.
NSBI_TAXID=813;
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DPSGTTVFSAGELTLKNLDNSIAALPLSCFGNLL------GSFTVLGRGHSLTFE 101
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                                                                                                                                                                                                                                                                                                 TEVPGRSKDYVVCRSNHHACIGSVYLSTQQALCGSYLFGDAFIRASYGFGNQHMKTSY-T 842
                                                                                                                                                                                                                                                                                                                                                                                    PAERSDVRWDNNCLAGEIGAGLPIVITPSKLYLNELRPFVQAEFSYADHESFTEEGDQAR 902
                                                                                                                                                                                                                                                                                                                                                                                                                  APKSGHLINLSVPVGVKFDRCSSTHPNKYSFMAAYICDAYRTISGTETTLLSHQETWTTD 962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DPLGETA----LLTKNPNHVVCTFFEDCTMESLFPALCAHASQDDPLYVLGNSYCWFVS 80
                                                                               486 NLSIQKIFLSNSGDENFYENVELLSKEON-NIPLLTL----SKEQSHLHLPDGNLSSHF
                                                                                                                                                  QASVDGRSYCRGLWVSGVSNPFY-HDRDALG-QGYRYISGGYSLGANSY-PGSSMFGLAP
                                                                                                                                                                                                                                        657 GOLLGKSSDSFITSTE----TTSYIATVOAQLATPLM-KISAQACYNESIHELKTKYRS
-- DTEKSVTIHAP
                                        ----IPPEDL-DDTAYDRYDWLGSNQKINVLKLQLGTKPPANAPSDLTL--GNEMPKY
                                                                                                                            GYQGSWKLAMDPNTANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGSILDIRSAHSAI
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STRAIN=UW-12, UW-20, UW-31, UW-4, and UW-3;
Games J.-P., Borrago M., Dean D.;
"Phylogenetic analysis of pmp's genes of Chlamydia trachomatis.";
Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  963 AFHLARHGVVVRGSMYASLTSNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
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Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydia
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95593 MW; DF1F1A31707EE48B CRC64;
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13-SEP-2005 (TrEMBLrel. 31, Last sequence update)
13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; AY299433; AAQ74499.1; -; Genomic_DNA.
EMBL; AX299434; AAQ74450.1; -; Genomic_DNA.
EMBL; AX299436; AAQ74452.1; -; Genomic_DNA.
EMBL; AX299431; AAQ74447.1; -; Genomic_DNA.
EMBL; AX299445; AAQ74461.1; -; Genomic_DNA.
EMBL; AY299445; AAQ74461.1; -; Genomic_DNA.
INTERPRO; IPRO05546; Auto transptbeta.
InterPro; IPRO01369; ChlamPMP M.
InterPro; IPRO03689; ChlamPMP M.
InterPro; IPRO03689; ChlamPMP M.
InterPro; IPRO03689; ChlamPMP M.
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13-SEP-2005 (TrEMBLrel. 31, Last
Polymorphic membrane protein I.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Complete protecome, Membrane, Multigene family, Outer membrane, Signal SIGNAL 1 24 Potential.
      MEDLINE=99000809; PubMed=9784116; DOI=10.1126/science.282.5389.754; Stephens R.S., Kalman S., Lammel C.J., Fan J., Marathe R., Aravind Mitchell W.P., Olinger L., Tatusov R.L., Zhao Q., Koonin B.V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Probable outer membrane protein pmpI
                                                                                          "Genome sequence of an obligate intracellular pathogen of humans:
                                                                                                                                                                                  (Potential).
                                                                                                                                     Science 282:754-759(1998).
-1- SUBCELLULAR LOCATION: Cell wall surface (elementary bodies)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 207;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 1; Length 878;
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14.6%; Score 771.5; UB 1; Deligher Local Similarity 26.5%; Pred. No. 5.8e-37;
Matches 268; Conservative 145; Mismatches 390; Indels
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                                                                                                                                                                                                                                                                                                                                                                         EMBL; AE001361; AAC68472.1; -; Genomic_DNA.
PIR; B71460; B71460.
                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR005546; Auto transptbeta.
InterPro; IPR011427; ChlamPMP M.
InterPro; IPR001368; Chlamydia PMP.
Pfam; PP03797; Autotransporter; 1.
Pfam; PP02415; Chlam PMP; 6.
Pfam; PP07548; ChlamPMP M; 1.
TIGRFAMB; TIGR01376; POMP_repeat; 6.
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                                                                                                                     Chlamydia trachomatis
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                                                                          Davis R.W.;
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                                                                                            trachomatis.";
                                                                                                                                                                  / Match 14.6%; Score 770.5; DB 2; Length 878; Local Similarity 26.5%; Pred. No. 6.6e-37; nes 268; Conservative 145; Mismatches 390; Indels 207
    Chlamydia
                                                                        Gomes J.P., Borrego M., Dean D.;

Gomes J.P., Borrego M., Dean D.;

"Phylogenetic analysis of pmp's genes of Chlamydia trach
Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.

EMBL; AX2994441, AAQ74460.1; -; Genomic DNA.

SEQUENCE 878 AA; 95534 MW; DFIFIAN333B13501B CRC64;
    Chlamydiales; Chlamydiaceae;
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NCBI_TaxID=813;
                                  [1]
NUCLEOTIDE SEQUENCE.
                                                             STRAIN=UM-57;
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                                                                                      QVVTSFSAMANRAPIAFVANVAGVRGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEF
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13-8EP-2005 (TrEMBLrel. 31, Last sequence update)
13-8EP-2005 (TrEMBLrel. 31, Last annotation update)
Polymorphic membrane protein I.
Chlamphila trachomatis.
KLHITDPKEALFKEKGD -- LSIQNFRFLSFTDCSS-
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Q4VWR1;
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X MEDLINE-22483673; PubMed=12595433;

X Stochard D. R., Toth G.A., Batteiger B.B.;

Stochard D. R., Toth G.A., Batteiger B.B.;

Groups of Chlamydia trachomatis.";

Infect. Immun. 7:1200-1208(2003).

Infect. Immun. 7:1200-1208(2003).

REMBL; AX184173; AA029990.1; -; Genomic DNA.

GO; GO:0019867; C:outer membrane; IEA.

InterPro; IPR001346; Autor transpebeta.

RINTERPO; IPR001349; Autortransporter; 1.

Pran; PP03797; Autortransporter; 1.

Pran; PP03748; ChlamPPM M; 1.

RINTERPO; ChlamPPM M; 1.

RINTERPO; ChlamPPM M; 1.

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RINTERPO; ChlamPMF M; 1.
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711 PSKEGFGSWHSVAVSGEVCASIPIVSNGSGLF-SSFSIFSKLQGFSGTQDGFEESSGEIR 769
                         AFKSGHLLNLSVPVGVKFDRCSSTHPNKYSFMAAYICDAYRTISGTETTLLSHQETWTTD 962
                                        -----SNLICSGNV-----TGNSATNGGAI
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                                                                             963 AFHLARHGVVVRGSMYASLTSNIEVYGHGRYEYRDASRGYGLSAGSRVRF 1012
                                                                                           DB 2; Length 846;
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Chlamydia trachomatis.
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydia.
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                                                                                                                                                                                                  01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Polymorphic membrane protein I (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 14.6%; Score 769.5; DB 2;
Best Local Similarity 26.4%; Pred. No. 7.2e-37;
Matches 264; Conservative 145; Mismatches 388;
                                                                                                                                                                             846 AA
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Q84FU2_CHLTR PRELIMINARY;
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NUCLEOTIDE SEQUENCE.
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